Citizens Task Force on National Forest Management
2428 Guilford Avenue
Roanoke Virginia 24015

March 11, 2010

Maureen Hyzer, Supervisor
George Washington & Jefferson National Forests
5162 Valleypointe Parkway
Roanoke, VA 24019

Re: COMMENTS ON GWNF DRAFT ISSUES

Dear Forest Supervisor Hyzer:

The Citizens Task Force on National Forest Management has the following **preliminary** comments responding to the Notice of Intent to revise the George Washington National Forest Land and Resource Management Plan which appeared in the Federal Register on March 10, 2010. We will provide more detailed comments later, but we believe it is important to bring to your attention at an early date some serious deficiency with the process you are following in revising the GWNF plan. As we note below, the appropriate remedy at this time is to withdraw the March 10 NOI and reissued it to focus only on scoping for public issues and give the dates for public meeting.

The NOI says we should comment on documents that are contained on the GWNF web site. A cursory count shows 37 **new** documents for the public to review, plus scores of old documents---the exact number is irrelevant. Documents such as the draft plan components/proposed actions, alternatives, need for change/analysis of management situation, climate change discussion, and potential wilderness/roadless area evaluations should be reviewed by the public in the draft EIS/plan stage, after analysis has been conducted under the planning process set up under the 1982 regulations. The purpose of a NOI is to begin the scoping process for the public and to notice the public about scoping meetings. By presenting a large volume of documents for the public to review, the public attention is diverted from the scoping tasks. To the extent that members of the public spend time on reviewing draft documents instead of focusing on issues to be addressed in later planning tasks, the quality of the input is diminished and the subsequent planning steps will be diminished.

In the NOI it is appropriate to "put on the table" for public review a list of preliminary issues that have been identified through a variety of previous contacts with the public, as well as the request for the public to identify additional issues that should be considered during the formulation of alternatives. We were surprised at the paucity of issues which

the GWNF leadership and staff has presented in the NOI. Although there was a list of "items", "concerns", or "questions" that we would consider issues, the NOI presented only three "need for change topics" to which they responded with proposed actions. We believe many additional issues should be included in the environmental analysis conducted in the EIS so a broad range alternatives can be formulated.

There are several sources that the GWNF staff should have used to derived its preliminary list of issues, and by reference we request that you incorporate relevant issues contained in the documents listed below.

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1. In the draft AMS there is a review of the issues and sub-issues that were addressed in the 1993 GWNF Forest Plan. We believe the issues or sub-issues that were identified as needing change in the draft AMS should be carried over in the current revision as issues during the preparation of the EIS and preferred alternative.

2. The NOI that initiated planning for five Southern Appalachian National Forests, including the Jefferson National Forest, identified 12 issues derived from the Southern Appalachian Assessment. (SAA)

3. In the 2004 revision of the Jefferson National Forest plan, there were specific issues identified that applied to the JNF that were in addition to those common to the other Southern Appalachian Forests. Other than the issue specific to the management of the Mt. Rogers National Recreation Area, the other issues apply to the GWNF.

4. The management direction in the current Forest Service Strategic Plan should be incorporated as issues or management concerns to be addressed in alternatives and in the plan.

5. The Chief of the Forest Service has reiterated his support for the management concerns that the Secretary of Agriculture outlined as crucial for the Forest Service to address. These can be found in statements and videos on the home page of the Washington Office of the Forest Service. These should be included in the list of issues and management concerns to be addressed in the plan revision.

6. The Regional Forester for the Southern Region (R-8) has identified a strategic framework (available on the Regional web site) that should be incorporated in the list of issues and management concerns addressed in the plan revision.

7. During public meetings held by you and your staff under the 2005 and 2008 planning rule, there were many comments from the public The web site for the GWNF has documented the results of these meetings, and your staff should be encouraged to analyze the content of these meetings to see which of the statements qualify as preliminary issues.

8. The CTF has identified several additional issues in past statements that should be addressed in the formulation of alternatives:

- Budget realism

- Consistency with the JNF and other Southern Appalachian Forests

There is substantial overlap among the issues and management concerns in these documents and sources. The GWNF interdisciplinary staff should eliminate duplication.

We have additional issues that we will formulate in detail when we comment in greater detail later in the comment period.

We believe that the staff members did not pay sufficient attention to the Forest Service NEPA Handbook when they developed the March 10 NOI. We suggest more attention to following the instructions in FSH 1909.15 zero code, chapter 10 (Environmental Analysis), and chapter 20 (Environmental Impact Statements and Related Documents) for preparing a Notice of Intent and conducting scoping. Conducting revision of the plan without careful attention to the direction in the Forest Service NEPA Handbook will inevitably lead to arbitrary and capricious planning.

We also believe that the staff members should have used the Forest Service NFMA Handbook when they developed the March 10 NOI. Although we have written to you for a copy of the NFMA planning handbook so we can work cooperatively with your staff to make certain the EIS and Plan conform to the FSH step-by-step instructions, our request has gone unfulfilled. We have been told by your planner and your deputy that a hard copy of the Handbook implementing the 1982 regulations exists in the files. We urge that the staff make copies of this document and distribute it to every member of the interdisciplinary team and make an electronic copy available on the GWNF web site for members of the public. If planners around the country interpret NFMA and the 1982 regulations without careful adherence to the procedures outlined in the FSH, the resulting plans will inevitably suffer from arbitrary and capricious actions.

The public should be asked to focus on scoping at this point, not reviewing draft documents that should be included in the draft plan or EIS. The Forest Service should withdraw the March 10 NOI and reissue an amended NOI which eliminates the extraneous documents for review, presents a more robust preliminary list of public issues and management concerns based on sources listed above, asks for review of this preliminary list, and asks for additional issues that should be addressed in the development of alternatives.

Even though we prefer some other mode of revising the GWNF plan and are participating in the formulation of a new planning rule, we want to make certain that the GW plan is revised carefully adhering to the 1982 regulations, as the Chief has directed. We want to assure that the resulting plan can withstand the legal scrutiny that all plans seem to undergo after completion. We do not want to repeat the experience of the first GWNF plan that was challenged by a coalition of national groups and eventually withdrawn by the Chief because it did not follow NEPA and NFMA procedures. The GWNF staff was told the start over, thus wasting nearly seven years of time and money by both the Forest Service and the public. The GWNF staff and public have already spent more than three years working under the 2005 and 2008 planning regulations before the courts ordered a

halt to the use of these planning regulations. We have been told to start over under the 1982 planning rule. It would be a terrible waste to spend several **more** years producing a plan that will only have to be redone if the 1982 planning process is not implemented with attention to established procedures.

We have brought our concerns to the attention of the GWNF staff, the Regional Office and the Washington Office by phone calls, emails, written statements and presentations at IDT meetings. We had hoped that bringing our concerns about departure from the 1982 process would have resulted in corrective action by now. While withdrawing the March 10 NOI, preparing a more robust list of preliminary issues, and reissuing a more focused NOI will result in a short delay, we believe it is better to take a few weeks now to get the planning process back on track than to spend several years doing it wrong and then several years more years redoing it under new planning regulations (which may or may not be free of legal challenges in the foreseeable future.)

Thank you for your attention to this matter.

Sincerely,

/s/ James E. Loesel

James E. Loesel, Secretary

cc: Liz Agpaoa, Regional Forester, R-8
Jerome Thomas, Deputy Regional Forester, R-8
Chris Liggett, Director, Planning R-8
Tony Tooke, Director, EMC, WO
Richard Cooke, Deputy Director, EMC, WO
Henry Hickerson, Deputy Forest Supervisor GWNF

Citizens Task Force on National Forest Management
2428 Guilford Avenue
Roanoke Virginia 24015

March 12, 2010

Maureen Hyzer, Supervisor
George Washington & Jefferson National Forests
5162 Valleypointe Parkway
Roanoke, VA 24019

Re: COMMENTS ON GWNF ALTERNATIVES

Dear Forest Supervisor Hyzer:

The Citizens Task Force on National Forest Management has the following preliminary comments responding to the Notice of Intent to revise the George Washington National Forest Land and Resource Management Plan which appeared in the Federal Register on March 8, 2010. We will provide more detailed comments later, but we believe it is important to bring to your attention now some serious deficiency with the process you are following in revising the GWNF plan.

The NOI says we should comment on documents that are contained on the GWNF web site. A cursory count shows 37 **new** documents for the public to review, plus scores of old documents---the exact number is irrelevant. Documents such as the draft alternatives should be reviewed by the public in the draft EIS/plan stage, after analysis has been conducted under the planning process set up under the 1982 regulations. The purpose of a NOI is to begin the scoping process for the public and to notify the public about scoping meetings. By presenting a large volume of documents for the public to review, the public attention is diverted from the scoping tasks. To the extent that members of the public spend time on reviewing draft documents instead of issues, the quality of the development of issues will be diminished and the subsequent planning steps, which are based on issues, will also be diminished

While it is premature to present alternatives at this stage, we want to make certain that alternatives are formulated correctly at later stages in the planning process. The requirements for formulating alternatives are clear in the text of the 1982 regulations

(f) Formulation of alternatives. The interdisciplinary team shall formulate a broad range of reasonable alternatives according to NEPA procedures. The primary goal in formulating alternatives, besides complying with NEPA procedures, is to provide an adequate basis for identifying the alternative that comes nearest to maximizing net public

benefits, consistent with the resource integration and management requirements of Secs. 219.13 through 219.27.

(1) Alternatives shall be distributed between the minimum resource potential and the maximum resource potential to reflect to the extent practicable the full range of major commodity and environmental resource uses and values that could be produced from the forest. Alternatives shall reflect a range of resource outputs and expenditure levels.

(2) Alternatives shall be formulated to facilitate analysis of opportunity costs and of resource use and environmental trade-offs among alternatives and between benchmarks and alternatives.

(3) Alternatives shall be formulated to facilitate evaluation of the effects on present net value, benefits, and costs of achieving various outputs and values that are not assigned monetary values, but that are provided at specified levels.

(4) Alternatives shall provide different ways to address and respond to the major public issues, management concerns, and resource opportunities identified during the planning process.

(5) Reasonable alternatives which may require a change in existing law or policy to implement shall be formulated if necessary to address a major public issue, management concern, or resource opportunity identified during the planning process (40 CFR 1501.7, 1502.14(c)).

(6) At least one alternative shall be developed which responds to and incorporates the RPA Program tentative resource objectives for each forest displayed in the regional guide.

(7) At least one alternative shall reflect the current level of goods and services provided by the unit and the most likely amount of goods and services expected to be provided in the future if current management direction continues. Pursuant to NEPA procedures, this alternative shall be deemed the ``no action'' alternative.

(8) Each alternative shall represent to the extent practicable the most cost efficient combination of management prescriptions examined that can meet the objectives established in the alternative.

(9) Each alternative shall state at least--

(i) The condition and uses that will result from long-term application of the alternative;

(ii) The goods and services to be produced, the timing and flow of these resource outputs together with associated costs and benefits;

(iii) Resource management standards and guidelines; and

(iv) The purposes of the management direction proposed.

Based on the 1982 regulations, special attention should be paid to the following aspects:

1. The 1982 planning regulations require at least one "No Action" alternative. We believe there are two different alternatives needed to fulfill the requirements of this provision--an alternative that models the current plan direction and another that models the current management. We support developing a "no action" alternative that models current management averaging the level of goods and services outputs over the last five years.

2. The 1982 planning regulations require an RPA alternative. Unless the 1982 regulations are changed, this is a legal requirement which must be met.

3. The 1982 planning regulations require a broad range of alternatives to respond to issues, concerns and resource opportunities (ICOs). We do not know how many alternatives this will require until the ICOs have been determined. We note, however, that the first GWNF Plan was struck down by the Chief because of an inadequate range of alternatives. We urge you not to repeat this error.

When your staff develops alternatives to respond to the issues identified through scoping, the Forest Service should make certain they follow the step-by-step instructions in the NFMA Handbook on implementing the 1982 planning regulations. Although we have asked for either an electronic link or a copy of the handbook so we can work cooperatively with the staff to make certain the EIS and Plan conform to the FSH step-by-step instructions, our request has gone unfulfilled. However, your planner and deputy told us in phone conversations that a hard copy of the Handbook implementing the 1982 regulations exists in the files. We urge that the staff make copies of this document and distribute it to every member of the interdisciplinary team and make an electronic copy available on the GWNF web site for members of the public. Failure to conduct revision of the plan without careful attention to the direction in the Forest Service Handbook will inevitably lead to arbitrary and capricious planning.

Based on the information above, we believe the appropriate remedy to the deficiencies in the planning process is to withdraw the March 10 NOI and reissue an NOI that focuses on scoping for public issues.

Even though we prefer some other mode of revising the GWNF plan (we are participating in the formulation of a new planning rule), we want to make certain that the GW plan is revised according to the 1982 regulations as has been ordered by the Chief. We want to assure that the resulting plan can withstand the legal scrutiny that all plans seem to undergo after completion. We do not want to repeat the experience of the first GWNF plan that was challenged by a coalition of national groups and eventually withdrawn by the Chief because it did not follow NEPA and NFMA procedures. The GWNF staff was told the start over, thus wasting nearly seven years of time and money by both the Forest Service and the public. The GWNF staff and public have already spent more than three

years working under the 2005 and 2008 planning regulations before the courts ordered a halt to the use of these planning regulations. We have been told to start over under the 1982 planning rule. It would be a terrible waste to spend several **more** years producing a plan that will have to be redone if the 1982 planning process is not implemented with attention to established procedures.

We have brought our concerns to the attention of the GWNF staff, the Regional Office and the Washington Office by phone calls, emails, written statements and presentations at IDT meetings. We had hoped that bringing our concerns about departure from the 1982 process would have resulted in corrective action by now. While withdrawing the March 10 NOI, preparing a more robust list of preliminary issues, and reissuing a more focused NOI will result in a short delay, we believe it is better to take a few weeks now to get the planning process back on track than to spend several years doing it wrong and then several years more years redoing it under new planning regulations (which may or may not be free of legal challenges in the foreseeable future.)

Thank you for your attention to this matter.

Sincerely,

/s/ James E. Loesel

James E. Loesel, Secretary

cc: Liz Agpaoa, Regional Forester, R-8
Jerome Thomas, Deputy Regional Forester, R-8
Chris Liggett, Director, Planning R-8
Tony Tooke, Director, EMC, WO
Richard Cooke, Deputy Director, EMC, WO
Henry Hickerson, Deputy Forest Supervisor GWNF

Citizens Task Force on National Forest Management
2428 Guilford Avenue
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March 14, 2010

Maureen Hyzer, Supervisor
George Washington & Jefferson National Forests
5162 Valleypointe Parkway
Roanoke, VA 24019

Re: COMMENTS ON GWNF DRAFT AMS

Dear Forest Supervisor Hyzer:

The Citizens Task Force on National Forest Management has the following preliminary comments responding to the Notice of Intent to revise the George Washington National Forest Land and Resource Management Plan which appeared in the Federal Register on March 10, 2010. We will provide more detailed comments later, but we believe it is important to bring to your attention at an early date some serious deficiency with the process you are following in revising the GWNF plan.

The NOI says we should comment on documents that are contained on the GWNF web site. A cursory count shows 37 **new** documents for the public to review, plus scores of old documents---the exact number is irrelevant. One of those documents we are to review is called a Draft Need for Change_AMS. Documents such as an AMS should be reviewed by the public in the draft EIS/plan stage, after analysis has been conducted under the planning process set up under the 1982 regulations. The purpose of a NOI is to begin the scoping process for the public and to notify the public about scoping meetings. By presenting a large volume of documents for the public to review, the public attention is diverted from the scoping tasks. To the extent that members of the public spend time on reviewing draft documents instead of issues, the quality of the development of issues will be diminished and the subsequent planning steps, which are based on issues, will also be diminished

The Draft Need for Change_AMS. document referenced in the NOI follows the form and content of a Comprehensive Evaluation Report (CER) which was required under the 2005 and 2008 planning rules. The Forest issued a draft CER in March, 2007, and invited comments by the public on that document. The Citizens Task Force wrote detailed comments on that draft CER. The GWNF staff updated this draft CER during 2008 and 2009. What appears now as a Draft Need for Change_AMS document is nearly identical to the draft CER which was created under the 2005 and 2008 planning rules.

However, the 2005 and 2008 planning rules have been held by courts to be illegal. The Forest Service has initiated the writing of a new planning rule, but has allowed some Forests to proceed with plan revision under the previous 1982 planning rule. The George Washington National Forest is one of those Forests proceeding with plan revision under the 1982 rule.

The draft "Draft Need for Change_AMS" document is totally inadequate to meet the requirements for an AMS in the 1982 planning regulations. Under the provisions of the 1982 planning rule, the Forest Supervisor should prepare an AMS. The regulations specify the minimum content of that document. The relevant section in the 1982 regulations appears as follows:

(e) Analysis of the management situation. The analysis of the management situation is a determination of the ability of the planning area covered by the forest plan to supply goods and services in response to society's demands. The primary purpose of this analysis is to provide a basis for formulating a broad range of reasonable alternatives. The analysis may examine the capability of the unit to supply outputs both with and without legal and other requirements. As a minimum, the analysis of the management situation shall include the following:

(1) Benchmark analyses to define the range within which alternatives can be constructed. Budgets shall not be a constraint. The following benchmark analyses shall be consistent with the minimum applicable management requirements of Sec. 219.27 and shall define at least--

(i) The minimum level of management which would be needed to maintain and protect the unit as part of the National Forest System together with associated costs and benefits;

(ii) The maximum physical and biological production potentials of significant individual goods and services together with associated costs and benefits;

(iii) Monetary benchmarks which estimate the maximum present net value of those resources having an established market value or an assigned value;

(A) For forest planning areas with major resource outputs that have an established market price, monetary benchmarks shall include an estimate of the mix of resource uses, combined with a schedule of outputs and costs, which will maximize the present net value of those major outputs that have an established market price;

(B) For all forest planning areas, monetary benchmarks shall include an estimate of the mix of resource uses, combined with a schedule of outputs and costs, which will maximize the present net value of those major outputs that have an established market price or are assigned a monetary value;

(C) For forest planning areas with a significant timber resource, estimates for paragraphs (e)(1)(iii) (A) and (B) of this section shall be developed both with and without meeting the requirements for compliance with a base sale schedule of timber harvest, as described in Sec. 219.16(a)(1), and with and without scheduling the harvest of even- aged stands generally at or beyond culmination of mean annual increment of growth, as described in Sec. 219.16(a)(2)(iii).

(D) Estimates for paragraphs (e)(1)(iii) (A) and (B) of this section shall be developed both with and without other constraints when needed to address major public issues, management concerns, or resource opportunities identified during the planning process.

(2) The current level of goods and services provided by the unit and the most likely amount of goods and services expected to be provided in the future if current management direction continues; this will be the same analysis as that required by Sec. 219.12(f)(5).

(3) Projections of demand using best available techniques, with both price and nonprice information. To the extent practical, demand will be assessed as price-quantity relationships.

(4) A determination of the potential to resolve public issues and management concerns.

(5) Based on consideration of data and findings developed in paragraphs (e)(1)-(4), a determination of the need to establish or change management direction.

The draft document which the Forest has issued for comment appears to make determinations of the need to establish or change management direct without any of the analyses required under the 1982 regulations. We urge you to prepare an AMS with the required analyses and resubmit them to the public for comment in the draft EIS.

The GWNF staff should have available to it guidance in developing an AMS through the Forest Service Handbook. Although we have asked for either an electronic link or a copy of the handbook so we can work cooperatively with the staff to make certain the EIS and Plan conform to the FSH step-by-step instructions, our request has gone unfulfilled. We have been told that a hard copy of the Handbook implementing the 1982 regulations exists in the files. We urge that the staff make copies of this document and distribute it to every member of the interdisciplinary team and make an electronic copy available on the GWNF web site for members of the public. Failure to conduct revision of the plan without careful attention to the direction in the Forest Service Handbook will inevitably lead to arbitrary and capricious planning.

Based on the information above, we believe the appropriate remedy to the deficiencies in the planning process is to withdraw the March 10 NOI and reissue an NOI that focuses on scoping.

Even though we prefer some other mode of revising the GWNF plan and are participating in the formulation of a new planning rule, we want to make certain that the GW plan is revised according to the 1982 regulations as has been ordered by the Chief. We want to assure that the resulting plan can withstand the legal scrutiny that all plans seem to undergo after completion. We do not want to repeat the experience of the first GWNF plan that was challenged by a coalition of national groups and eventually withdrawn by the Chief because it did not follow NEPA and NFMA procedures. The GWNF staff was told to start over, thus wasting nearly seven years of time and money by both the Forest Service and the public. The GWNF staff and public have already spent more than three years working under the 2005 and 2008 planning regulations before the courts ordered a halt to the use of these planning regulations. We have been told to start over under the

1982 planning rule. It would be a terrible waste to spend several **more** years producing a plan that will have to be redone if the 1982 planning process is not implemented with attention to established procedures.

We have brought our concerns to the attention of the GWNF staff, the Regional Office and the Washington Office by phone calls, emails, written statements and presentations at IDT meetings. We had hoped that bringing our concerns about departure from the 1982 process would have resulted in corrective action by now. While withdrawing the March 10 NOI, preparing a more robust list of preliminary issues, and reissuing a more focused NOI will result in a short delay, we believe it is better to take a few weeks now to get the planning process back on track than to spend several years doing it wrong and then several years more years redoing it under new planning regulations (which may or may not be free of legal challenges in the foreseeable future.)

Thank you for your attention to this matter. Please contact us if you have any questions about our comments.

Sincerely,

/s/ James E. Loesel

James E. Loesel, Secretary

cc: Liz Agpaoa, Regional Forester
Jerome Thomas, Deputy Regional Forester
Tony Tooke, Director, EMC
Richard Cook, Deputy Director EMC
Henry Hickerson, Deputy Supervisor GWNF

Citizens Task Force on National Forest Management
2428 Guilford Avenue
Roanoke Virginia 24015

March 15, 2010

Maureen Hyzer, Supervisor
George Washington & Jefferson National Forests
5162 Valleypointe Parkway
Roanoke, VA 24019

Re: COMMENTS ON GWNF POTENTIAL WILDERNESS AREA EVALUATIONS

Dear Forest Supervisor Hyzer:

The Citizens Task Force on National Forest Management has the following preliminary comments responding to the Notice of Intent to revise the George Washington National Forest Land and Resource Management Plan, which appeared in the Federal Register on March 10, 2010. We will provide more detailed comments later, but we believe it is important to bring to your attention at an early date some serious deficiency with the process you are following in revising the GWNF plan.

The NOI says we should comment on documents that are contained on the GWNF web site. A cursory count shows 37 **new** documents for the public to review, plus scores of old documents---the exact number is irrelevant. Documents such as draft analyses of Potential Wilderness Areas and recommendations for Wilderness should be reviewed by the public in the draft EIS/plan stage, after analysis has been conducted under the planning process set up under the 1982 regulations. The purpose of a NOI is to begin the scoping process for the public and to notify the public about scoping meetings. By presenting a large volume of documents for the public to review, the public attention is diverted from the scoping tasks. To the extent that members of the public spend time on reviewing draft documents instead of issues, the quality of the development of issues will be diminished and the subsequent planning steps, which are based on issues, will also be diminished

The NOI references draft Potential Wilderness Area evaluations for public comment. This is premature. In the scoping process initiated by the NOI, the focus should be on identifying public issues and management concerns that become the foundation for further planning. The analysis of roadless areas and the recommendation for potential wilderness is a task to be done later in the planning process. The results of the roadless area review should be incorporated in an appendix to the draft EIS and made available for

public review. Different alternatives should have different levels of wilderness recommendations. The level of wilderness recommendation in the preferred alternative should be determined together with other aspects of the alternative because it comes closest to maximizing net public benefits. It is not possible to determine which alternative maximizes net public benefits until the various steps of the planning process have been completed. To make recommendations for wilderness designation in the scoping process before analysis has been conducted strongly suggests that the recommendations are arbitrary and capricious rather than the result of careful planning under the planning regulations.

We believe one of the reasons for the deficiencies noted above is inadequate attention to the text of the 1982 planning regulations. The text of the 1982 planning regulations states clearly that roadless area evaluation will be conducted in the analysis of management situation. We also note that in the 1982 planning regulations, the term used to describe areas that meet criteria for consideration for wilderness recommendation is *roadless area*. The term *potential wilderness* is used to describe roadless areas that have been recommended for wilderness. It appears to us that the FSH chapter 70 which describes the step-by-step procedures to use in evaluating roadless areas for their potential recommendation for wilderness was adopted in 2007 and it relates more to the 2005 and 2008 planning rules than to the 1982 planning rule.

Based on the information above, we believe the appropriate remedy to the deficiencies in the planning process is to withdraw the March 10 NOI which asks for public comment on potential wilderness/roadless area evaluations, among other documents which should be reviewed in the draft EIS, and reissue an NOI that focuses on scoping.

Even though we prefer some other mode of revising the GWNF plan and are participating in the formulation of a new planning rule, we want to make certain that the GW plan is revised according to the 1982 regulations as has been ordered by the Chief. We want to assure that the resulting plan can withstand the legal scrutiny that all plans seem to undergo after completion. We do not want to repeat the experience of the first GWNF plan that was challenged by a coalition of national groups and eventually withdrawn by the Chief because it did not follow NEPA and NFMA procedures. The GWNF staff was told the start over, thus wasting nearly seven years of time and money by both the Forest Service and the public. The GWNF staff and public have already spent more than three years working under the 2005 and 2008 planning regulations before the courts ordered a halt to the use of these planning regulations. We have been told to start over under the 1982 planning rule. It would be a terrible waste to spend several **more** years producing a plan that will have to be redone if the 1982 planning process is not implemented with attention to established procedures.

We have brought our concerns to the attention of the GWNF staff, the Regional Office and the Washington Office by phone calls, emails, written statements and presentations at IDT meetings. We had hoped that bringing our concerns about departure from the 1982 process would have resulted in corrective action by now. While withdrawing the March 10 NOI, preparing a more robust list of preliminary issues, and reissuing a more focused

NOI will result in a short delay, we believe it is better to take a few weeks now to get the planning process back on track than to spend several years doing it wrong and then several years more years redoing it under new planning regulations (which may or may not be free of legal challenges in the foreseeable future.)

Thank you for your attention to this matter. Please contact us if you have any questions about our comments.

Sincerely,

/s/ James E. Loesel

James E. Loesel, Secretary

cc: Liz Agpaoa, Regional Forester
Jerome Thomas, Deputy Regional Forester
Tony Tooke, Director, EMC
Richard Cook, Deputy Director, EMC
Henry Hickerson, Deputy Supervisor, GWNF

COMMONWEALTH of VIRGINIA

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RECEIVED MAR 19 2010

March 15, 2010

George Washington & Jefferson National Forests
5162 Valleypointe Parkway
Roanoke, Virginia 24019-3050

RE: Scoping request for the preparation of an Environmental Impact Statement and revised Land Management Plan for the George Washington National Forest in Virginia and West Virginia, by the U.S. Department of Agriculture Forest Service.

Dear Sir or Madam:

This correspondence is in response to the March 10, 2010 Federal Register notice (Vol. 75, No. 44, page 11107) announcing the preparation of an Environmental Impact Statement and revised land management plan using the provisions of the 1982 National Forest System land and resource management planning regulations for the George Washington National Forest, and soliciting comments on the scope of the documents.

Project Description

According to the notice (attached), as directed by the National Forest Management Act, the U.S. Department of Agriculture (USDA) Forest Service is preparing the George Washington National Forest (GWNF) revised land and resource management plan (Forest Plan) and an environmental impact statement (EIS) for the plan. The revised Forest Plan will supersede the land and resource management plan previously approved by the Regional Forester on January 21, 1993 and as amended nine times from 1993 to 2002. The Forest Plan will make the following primary decisions:

1. establish forestwide multiple-use goals and objectives;
2. establish forestwide management requirements;
3. establish multiple-use prescriptions and associated standards for each management area;
4. determine land that is suitable for the production of timber;

5. establish the allowable sale quantity for timber within a time frame specified in the plan;
6. establish monitoring and evaluation requirements;
7. recommend roadless areas that Congress could designate as wilderness; and
8. where applicable, designate those lands administratively available for oil and gas leasing.

The EIS will identify which alternative best meets the diverse needs of the people while protecting the forest's resources, as required by the National Forest Management Act and the Multiple Use Sustained Yield Act. The revised Forest Plan will establish management direction for the next 10 to 15 years.

Coordination of Environmental Reviews

The role of the Virginia Department of Environmental Quality (DEQ) in relation to the project under consideration is that DEQ's Office of Environmental Impact Review (OEIR) will coordinate Virginia's review of the EIS prepared pursuant to the National Environmental Policy Act (NEPA) and comment to the Forest Service on behalf of the Commonwealth.

Scoping and Environmental Review

We are sharing your scoping request with selected state and regional Virginia agencies below. These agencies will also participate in the coordinated review of the EIS submitted by the Forest Service to this office.

- Department of Environmental Quality:
  - Valley Regional Office
  - Blue Ridge Regional Office
  - Air Division
  - Waste Division
- Department of Game and Inland Fisheries
- Department of Conservation and Recreation:
  - Division of Soil and Water Conservation
  - Division of Natural Heritage
  - Division of Planning and Recreation Resources
- Department of Agriculture and Consumer Services
- Department of Mines, Minerals and Energy
- Department of Forestry
- Department of Transportation
- Marine Resources Commission
- Department of Historic Resources
- Department of Health
- Roanoke Valley-Alleghany Regional Commission
- Central Shenandoah Planning District Commission
- Northern Shenandoah Regional Commission
- Central Virginia Planning District Commission
- Thomas Jefferson Planning District Commission.

In order to ensure an effective coordinated review of the Environmental Impact Statement, we will require 22 copies of the document when it is published. The submission may include 4 hard copies and 18 CDs or 4 hard copies and an electronic copy available for download at a Forest Service web or ftp site. We recommend that project details unfamiliar to people outside the Forest Service be adequately described.

While this office does not participate in scoping efforts beyond the advice given herein, other agencies are free to provide scoping comments concerning the preparation of the NEPA document and land management plan for the proposed project.

If you have questions about the environmental review process, please feel free to call me at (804) 698-4325 or John Fisher of this Office at (804) 698-4339.

I hope this information is helpful to you.

Sincerely,

Ellie L. Irons, Manager
Office of Environmental Impact Review

Enclosure

Ec: Greg Clark, DEQ-VRO
Kevin Harlow, DEQ-BRO
Kotur S. Narasimhan, DEQ-Air
Paul Kohler, DEQ-Waste
Amy Ewing, DGIF
Robbie Rhur, DCR
Tony Watkinson, VMRC
Keith Tignor, VDACS
Scott Johnson, DMME
Todd Groh, VDF
Roger Kirchen, DHR
Melanie Allen, VDOT
Barry Matthews, VDH

Cc: Wayne Strickland, Roanoke Valley-Alleghany Regional Commission
Bonnie Riedesel, Central Shenandoah Planning District Commission
Chris Price, Northern Shenandoah Regional Commission
Gary Christie, Region 2000 Local Government Council
Billie Campbell, Thomas Jefferson Planning District Commission

Citizens Task Force on National Forest Management
2428 Guilford Avenue
Roanoke Virginia 24015

March 16, 2010

Maureen Hyzer, Supervisor
George Washington & Jefferson National Forests
5162 Valleypointe Parkway
Roanoke, VA 24019

Re: COMMENTS ON GWNF MIS

Dear Forest Supervisor Hyzer:

The Citizens Task Force on National Forest Management has the following preliminary comments responding to the Notice of Intent to revise the George Washington National Forest Land and Resource Management Plan which appeared in the Federal Register on March 10, 2010. We will provide more detailed comments later, but we believe it is important to bring to your attention at an early date some serious deficiency with the process you are following in revising the GWNF plan.

The NOI says we should comment on documents that are contained on the GWNF web site. A cursory count shows 37 **new** documents for the public to review, plus scores of old documents---the exact number is irrelevant. One of items the public is asked to review is a list of management indicator species (MIS). Information such as which MIS should be included in the plan should be reviewed by the public in the draft EIS/plan stage, after analysis has been conducted under the planning process set up under the 1982 regulations. The purpose of a NOI is to begin the scoping process for the public and to notify the public about scoping meetings. By presenting a large volume of documents for the public to review, the public attention is diverted from the scoping tasks. To the extent that members of the public spend time on reviewing draft documents instead of issues, the quality of the development of issues will be diminished and the subsequent planning steps, which are based on issues, will also be diminished. We believe the March 10 NOI should be withdrawn and reissued later with a focus on scoping the issues that should be addressed in the development of alternatives and plan.

However, the CTF has the following general comments about MIS for consideration at the appropriate time:

1. The selection of Management Indicator Species (MIS) is required under the 1982 planning regulations. We believe management indicator species approach is outmoded.

However, since the selection of MIS is required, we favor making the process as simple, inexpensive, and least burdensome possible.

2. Since monitoring of MIS is already required in the JNF plan, we believe selecting the same species for the GWNF (with the substitution of the GWNF endemic species Cow Knob salamander for the JNF endemic species Peaks of Otter salamander) may be the least costly and burdensome approach. Until we see the analysis in the draft EIS and draft Plan, we cannot say conclusively what the MIS list should include.

Even though we prefer some other mode of revising the GWNF plan and are participating in the formulation of a new planning rule, we want to make certain that the GW plan is revised according to the 1982 regulations as has been ordered by the Chief. We want to assure that the resulting plan can withstand the legal scrutiny that all plans seem to undergo after completion. We do not want to repeat the experience of the first GWNF plan that was challenged by a coalition of national groups and eventually withdrawn by the Chief because it did not follow NEPA and NFMA procedures. The GWNF staff was told the start over, thus wasting nearly seven years of time and money by both the Forest Service and the public. The GWNF staff and public have already spent more than three years working under the 2005 and 2008 planning regulations before the courts ordered a halt to the use of these planning regulations. We have been told to start over under the 1982 planning rule. It would be a terrible waste to spend several **more** years producing a plan that will have to be redone if the 1982 planning process is not implemented with attention to established procedures.

We have brought our concerns to the attention of the GWNF staff, the Regional Office and the Washington Office by phone calls, emails, written statements and presentations at IDT meetings. We had hoped that bringing our concerns about departure from the 1982 process would have resulted in corrective action by now. While withdrawing the March 10 NOI, preparing a more robust list of preliminary issues, and reissuing a more focused NOI will result in a short delay, we believe it is better to take a few weeks now to get the planning process back on track than to spend several years doing it wrong and then several years more years redoing it under new planning regulations (which may or may not be free of legal challenges in the foreseeable future.)

Thank you for your attention to this matter. Please contact us if you have any questions about our comments.

Sincerely,

/s/ James E. Loesel

James E. Loesel, Secretary

cc: Liz Agpaoa, Regional Forester

Jerome Thomas, Deputy Regional Forester
Tony Tooke, Director, EMC
Richard Cook, Deputy Director, EMC
Henry Hickerson, Deputy Supervisor, GWNF

Citizens Task Force on National Forest Management
2428 Guilford Avenue
Roanoke Virginia 24015

March 17, 2010

Maureen Hyzer, Supervisor
George Washington & Jefferson National Forests
5162 Valleypointe Parkway
Roanoke, VA 24019

Re: COMMENTS ON GWNF DRAFT PLAN PROPOSAL

Dear Forest Supervisor Hyzer:

The Citizens Task Force on National Forest Management has the following preliminary comments responding to the Notice of Intent to revise the George Washington National Forest Land and Resource Management Plan which appeared in the Federal Register on March 8, 2010. We will provide more detailed comments later, but we believe it is important to bring to your attention at an early date some serious deficiency with the process you are following in revising the GWNF plan.

The NOI says we should comment on documents that are contained on the GWNF web site. A cursory count shows 37 **new** documents for the public to review, plus scores of old documents---the exact number is irrelevant. In the NOI the GWNF planners have presented draft forest-wide conditions, objectives, and standards as separate documents for public review and comment. In the interdisciplinary team meetings these were part of a draft plan developed under the illegal 2008 planning process. It was clearly called a draft plan on the cover page of this document. Separating the document into different components without a cover page that identifies it as a draft plan does not make it any less a draft plan. Documents such as a draft plan (also called proposed actions) should be reviewed by the public in the draft EIS/plan stage, after analysis has been conducted under the planning process set up under the 1982 regulations. The purpose of a NOI is to begin the scoping process for the public and to notify the public about scoping meetings. By presenting a large volume of documents for the public to review, the public attention is diverted from the scoping tasks. To the extent that members of the public spend time on reviewing extraneous draft documents instead of issues or management concerns, the quality of the development of issues will be diminished and the subsequent planning steps, which are based on issues, will also be diminished

1. What is called a proposed action is in fact a draft plan that was formulated outside the NEPA process or the process set up by the 1982 planning regulations. A draft plan must

be the result of analyses established by the 1982 planning rule. None of that analysis has been done, and the proposal is on its face an arbitrary and capricious proposed action.

2. What is called a proposed action is in fact a draft plan based on a draft prepared under the illegal 2005 and 2008 planning rule. It contains the same structure as the draft plan prepared by the GWNF under the 2005/2008 regulations: "aspirational" desired future conditions, objectives for moving toward the desired future condition, and design criteria. This is not the structure of plans prepared under the 1982 planning regulations.

3. The proposed action/draft plan does not appear to address key issues that should "drive" the analysis in the EIS. It is not clear what issues it addresses.

4. The time that NEPA allocates for public comment on a draft plan and EIS is 90 days. The NOI allocates only 60 days for the public to comment on the draft plan and several other documents referenced. These documents total more than xxx pages.

5. The proposed action/draft plan calls for large increases in timber harvesting and prescribed burning over current levels. This is wishful thinking. The funding levels for timber and prescribed burning that the GWNF has received over the last 5 years are far less than the budget dollars that would be required to implement the proposed action.

6. The proposed action/draft plan calls for maintaining a suitable base that is equal to that defined for the 1993 plan. There was no analysis conducted to see how many acres are in fact required to achieve an ASQ of 22 MMBF. Since the 1993 plan was based on a suitable base of 350,000 acres (or variously 370,000 acres) to produce an ASQ of 33 MMBF, it would require a substantially smaller suitable timber base to produce 22 MMBF.

7. The proposed action/draft plan is not consistent with the JNF Plan.

8. The proposed action/ draft plan does not protect old growth. It does not even place old growth in a separate prescription but imbeds old growth in other prescriptions. It does not remove all old growth from the suitable base. The plan allows for cutting of old growth.

9. The proposed action/draft plan does not fully protect drinking water sources.

10. The proposed action/draft plan does not protect inventoried roadless areas and potential wilderness areas consistent with the Roadless Rule.

We believe that the staff members did not pay sufficient attention to the Forest Service NEPA Handbook when they developed the March 10 NOI. We suggest more attention to following the instructions in FSH 1909.15 zero code, chapter 10 (Environmental Analysis), and chapter 20 (Environmental Impact Statements and Related Documents) for preparing a Notice of Intent and conducting scoping. We note particularly that the Forest Service has misinterpreted the term "proposal" or "proposed action." As defined in the

NOI, the "proposed action" is in fact a draft plan. In the NEPA Handbook, the term "proposal" or "proposed action" is merely a goal statement. The proposed action statement in this sense is simply to "Revise the GWNF Land and Resource Management Plan." By proposing a draft plan in the scoping notice, the Forest Service is leaping to a conclusion about the preferred alternative before scoping has even taken place. Before a plan can be identified, there are many planning steps that must be taken under the 1982 planning regulations and Handbook direction and NEPA regulations and Handbook direction. Conducting revision of the plan without careful attention to the direction in the Forest Service NEPA and NFMA Handbooks will inevitably lead to arbitrary and capricious planning.

We also believe that the staff members did not pay sufficient attention to the Forest Service NFMA Handbook when they developed the March 10 NOI. We have written to you for a copy of the NFMA planning handbook so we can work cooperatively with your staff to make certain the EIS and Plan conform to the FSH step-by-step instructions. We have been sent an electronic copy of this Handbook by your Deputy. We urge that the staff make copies of this document and distribute it to every member of the interdisciplinary team and make an electronic copy available on the GWNF web site for members of the public. Failure to conduct revision of the plan without careful attention to direction in the Forest Service Handbook will inevitably lead to arbitrary and capricious planning.

Based on the information above, we believe the appropriate remedy to the deficiencies in the planning process is to withdraw the NOI and reissue an NOI that focuses on scoping.

Even though we prefer some other mode of revising the GWNF plan and are participating in the formulation of a new planning rule, we want to make certain that the GW plan is revised according to the 1982 regulations as has been ordered by the Chief. We want to assure that the resulting plan can withstand the legal scrutiny that all plans seem to undergo after completion. We do not want to repeat the experience of the first GWNF plan that was challenged by a coalition of national groups and eventually withdrawn by the Chief because it did not follow NEPA and NFMA procedures. The GWNF staff was told the start over, thus wasting nearly seven years of time and money by both the Forest Service and the public. The GWNF staff and public have already spent more than three years working under the 2005 and 2008 planning regulations before the courts ordered a halt to the use of these planning regulations. We have been told to start over under the 1982 planning rule. It would be a terrible waste to spend several **more** years producing a plan that will have to be redone if the 1982 planning process is not implemented with attention to established procedures.

We have brought our concerns to the attention of the GWNF staff, the Regional Office and the Washington Office by phone calls, emails, written statements and presentations at IDT meetings. We had hoped that bringing our concerns about departure from the 1982 process would have resulted in corrective action by now. While withdrawing the March 10 NOI, preparing a more robust list of preliminary issues, and reissuing a more focused NOI will result in a short delay, we believe it is better to take a few weeks now to get the

planning process back on track than to spend several years doing it wrong and then several years more years redoing it under new planning regulations (which may or may not be free of legal challenges in the foreseeable future.)

Thank you for your attention to this matter.

Sincerely,

/s/ James E. Loesel

James E. Loesel, Secretary

cc: Liz Agpaoa, Regional Forester
Jerome Thomas, Deputy Regional Forester
Tony Tooke, Director, EMC
Henry Hickerson, Deputy Supervisor GWNF

Citizens Task Force on National Forest Management
2428 Guilford Avenue
Roanoke Virginia 24015

March 19, 2010

Maureen Hyzer, Supervisor
George Washington & Jefferson National Forests
5162 Valleypointe Parkway
Roanoke, VA 24019

Re: STATUS OF PLANNING CRITERIA

Dear Forest Supervisor Hyzer:

In our review of March 10 NOI, documents noted therein or documents available on the GWNF web site, we did not see reference or copy of the planning criteria to be used in developing the plan. This is step two of the ten step planning process under the 1982 planning regulations.

1. If you have drafted planning criteria, please furnish us with a copy.

2, If you have not begun work on this important early planning document, when do you expect to start on it?

3. If this work is to be done by the interdisciplinary team, please inform us of the dates when they will work on this document. We have suggestions for the planning criteria that we wish to present for consideration at the appropriate time.

4. If this work is to be done outside a interdisciplinary team meeting, who will be doing the work? As noted above, we have suggestions for the planning criteria that we wish to present at the appropriate time.

Thank you for your attention to this matter.

Sincerely,

/s/ James E. Loesel

James E. Loesel, Secretary

cc: Liz Agpaoa, Regional Forester

Jerome Thomas, Deputy Regional Forester
Tony Tooke, Director, EMC
Richard Cook, Deputy Director, EMC
Henry Hickerson, Deputy Supervisor, GWNF

Citizens Task Force on National Forest Management
2428 Guilford Avenue
Roanoke Virginia 24015

March 22, 2010

Maureen Hyzer, Supervisor
George Washington & Jefferson National Forests
5162 Valleypointe Parkway
Roanoke, VA 24019

Re: COMMENTS ON GWNF SUITABLE USES

Dear Forest Supervisor Hyzer:

The Citizens Task Force on National Forest Management has the following preliminary comments responding to the Notice of Intent to revise the George Washington National Forest Land and Resource Management Plan which appeared in the Federal Register on March 10, 2010. We will provide more detailed comments later, but we believe it is important to bring to your attention at an early date some serious deficiency with the process you are following in revising the GWNF plan.

The NOI says we should comment on documents that are contained on the GWNF web site. A cursory count shows 37 **new** documents for the public to review, plus scores of old documents---the exact number is irrelevant. One of documents the public is asked to review describes the uses that are suitable for various portions of the GWNF. This document was a focus under the 2008 planning regulations, which courts ruled was illegal. Under the 1982 regulations, information such as the suitable uses should be reviewed by the public in the draft EIS/plan stage, after analysis has been conducted in the planning process. The uses that are suitable for various parts of the GWNF will vary according to the alternative that is formulated. Until the alternatives have been formulated and analyzed to see which of them should be preferred and developed into a plan, it is premature to speculate what uses will be appropriate to various parts of the forest. To put forward a document now showing suitable uses before the earlier steps in the 1982 planning process have been completed will bias the later decision.

The purpose of a NOI under the 1982 planning regulations is to begin the scoping process for the public and to notify the public about scoping meetings, not comment on aspects of the final plan. By presenting a large volume of documents for the public to review, the public attention is diverted from the scoping tasks. To the extent that members of the public spend time on reviewing draft documents instead of issues, the quality of the development of issues will be diminished and the subsequent planning steps, which are based on issues, will also be diminished. We believe the March 10 NOI should be

withdrawn and reissued later with a focus on scoping the issues that should be addressed in the development of alternatives and plan.

Even though we prefer some other mode of revising the GWNF plan and are participating in the formulation of a new planning rule, we want to make certain that the GW plan is revised according to the 1982 regulations as has been ordered by the Chief. We want to assure that the resulting plan can withstand the legal scrutiny that all plans seem to undergo after completion. We do not want to repeat the experience of the first GWNF plan that was challenged by a coalition of national groups and eventually withdrawn by the Chief because it did not follow NEPA and NFMA procedures. The GWNF staff was told the start over, thus wasting nearly seven years of time and money by both the Forest Service and the public. The GWNF staff and public have already spent more than three years working under the 2005 and 2008 planning regulations before the courts ordered a halt to the use of these planning regulations. We have been told to start over under the 1982 planning rule. It would be a terrible waste to spend several **more** years producing a plan that will have to be redone if the 1982 planning process is not implemented with attention to established procedures.

We have brought our concerns to the attention of the GWNF staff, the Regional Office and the Washington Office by phone calls, emails, written statements and presentations at IDT meetings. We had hoped that bringing our concerns about departure from the 1982 process would have resulted in corrective action by now. While withdrawing the March 10 NOI, preparing a more robust list of preliminary issues, and reissuing a more focused NOI will result in a short delay, we believe it is better to take a few weeks now to get the planning process back on track than to spend several years doing it wrong and then several years more years redoing it under new planning regulations (which may or may not be free of legal challenges in the foreseeable future.)

Thank you for your attention to this matter. Please contact us if you have any questions about our comments.

Sincerely,

/s/ James E. Loesel

James E. Loesel, Secretary

cc: Liz Agpaoa, Regional Forester
Jerome Thomas, Deputy Regional Forester
Tony Tooke, Director, EMC
Richard Cook, Deputy Director, EMC
Henry Hickerson, Deputy Supervisor, GWNF

Citizens Task Force on National Forest Management
2428 Guilford Avenue
Roanoke Virginia 24015

March 23, 2010

Maureen Hyzer, Supervisor
George Washington & Jefferson National Forests
5162 Valleypointe Parkway
Roanoke, VA 24019

Re: COMMENTS ON GWNF NICHE

Dear Forest Supervisor Hyzer:

The Citizens Task Force on National Forest Management has the following preliminary comments responding to the Notice of Intent to revise the George Washington National Forest Land and Resource Management Plan which appeared in the Federal Register on March 10, 2010. We will provide more detailed comments later, but we believe it is important to bring to your attention at an early date some serious deficiency with the process you are following in revising the GWNF plan.

The NOI says we should comment on documents that are contained on the GWNF web site. A cursory count shows 37 **new** documents for the public to review, plus scores of old documents---the exact number is irrelevant. One of documents the public is asked to review describes the GWNF's Niche. Information such as the forest's niche should be reviewed by the public in the draft EIS/plan stage, after analysis has been conducted under the planning process set up under the 1982 regulations. While it is interesting to speculate whether or not Thomas Fairfax, George Washington, Stonewall Jackson, and Robert E. Lee all walked through this land" this is not information appropriate for review in a NOI. The purpose of a NOI is to begin the scoping process for the public and to notify the public about scoping meetings. By presenting a large volume of documents for the public to review, the public attention is diverted from the scoping tasks. To the extent that members of the public spend time on reviewing draft documents instead of issues, the quality of the development of issues will be diminished and the subsequent planning steps, which are based on issues, will also be diminished. We believe the March 10 NOI should be withdrawn and reissued later with a focus on scoping the issues that should be addressed in the development of alternatives and plan.

Even though we prefer some other mode of revising the GWNF plan and are participating in the formulation of a new planning rule, we want to make certain that the GW plan is revised according to the 1982 regulations as has been ordered by the Chief. We want to assure that the resulting plan can withstand the legal scrutiny that all plans seem to

undergo after completion. We do not want to repeat the experience of the first GWNF plan that was challenged by a coalition of national groups and eventually withdrawn by the Chief because it did not follow NEPA and NFMA procedures. The GWNF staff was told the start over, thus wasting nearly seven years of time and money by both the Forest Service and the public. The GWNF staff and public have already spent more than three years working under the 2005 and 2008 planning regulations before the courts ordered a halt to the use of these planning regulations. We have been told to start over under the 1982 planning rule. It would be a terrible waste to spend several **more** years producing a plan that will have to be redone if the 1982 planning process is not implemented with attention to established procedures.

We have brought our concerns to the attention of the GWNF staff, the Regional Office and the Washington Office by phone calls, emails, written statements and presentations at IDT meetings. We had hoped that bringing our concerns about departure from the 1982 process would have resulted in corrective action by now. While withdrawing the March 10 NOI, preparing a more robust list of preliminary issues, and reissuing a more focused NOI will result in a short delay, we believe it is better to take a few weeks now to get the planning process back on track than to spend several years doing it wrong and then several years more years redoing it under new planning regulations (which may or may not be free of legal challenges in the foreseeable future.)

Thank you for your attention to this matter. Please contact us if you have any questions about our comments.

Sincerely,

/s/ James E. Loesel

James E. Loesel, Secretary

cc: Liz Agpaoa, Regional Forester
Jerome Thomas, Deputy Regional Forester
Tony Tooke, Director, EMC
Richard Cook, Deputy Director, EMC
Henry Hickerson, Deputy Supervisor, GWNF

Citizens Task Force on National Forest Management
2428 Guilford Avenue
Roanoke Virginia 24015

March 24, 2010

Maureen Hyzer, Supervisor
George Washington & Jefferson National Forests
5162 Valleypointe Parkway
Roanoke, VA 24019

Re: COMMENTS ON GWNF SUITABLE USES

Dear Forest Supervisor Hyzer:

The Citizens Task Force on National Forest Management has the following preliminary comments responding to the Notice of Intent to revise the George Washington National Forest Land and Resource Management Plan which appeared in the Federal Register on March 10, 2010. We will provide more detailed comments later, but we believe it is important to bring to your attention at an early date some serious deficiency with the process you are following in revising the GWNF plan.

The NOI says we should comment on documents that are contained on the GWNF web site. A cursory count shows 37 **new** documents for the public to review, plus scores of old documents---the exact number is irrelevant. One of documents the public is asked to review describes the uses that are suitable for various portions of the GWNF. This document was a focus under the 2008 planning regulations, which courts ruled was illegal. Under the 1982 regulations, information such as the suitable uses should be reviewed by the public in the draft EIS/plan stage, after analysis has been conducted in the planning process. The uses that are suitable for various parts of the GWNF will vary according to the alternative that is formulated. Until the alternatives have been formulated and analyzed to see which of them should be preferred and developed into a plan, it is premature to speculate what uses will be appropriate to various parts of the forest. To put forward a document now showing suitable uses before the earlier steps in the 1982 planning process have been completed will bias the later decision.

The purpose of a NOI under the 1982 planning regulations is to begin the scoping process for the public and to notify the public about scoping meetings, not comment on aspects of the final plan. By presenting a large volume of documents for the public to review, the public attention is diverted from the scoping tasks. To the extent that members of the public spend time on reviewing draft documents instead of issues, the quality of the development of issues will be diminished and the subsequent planning steps, which are based on issues, will also be diminished. We believe the March 10 NOI should be

withdrawn and reissued later with a focus on scoping the issues that should be addressed in the development of alternatives and plan.

Even though we prefer some other mode of revising the GWNF plan and are participating in the formulation of a new planning rule, we want to make certain that the GW plan is revised according to the 1982 regulations as has been ordered by the Chief. We want to assure that the resulting plan can withstand the legal scrutiny that all plans seem to undergo after completion. We do not want to repeat the experience of the first GWNF plan that was challenged by a coalition of national groups and eventually withdrawn by the Chief because it did not follow NEPA and NFMA procedures. The GWNF staff was told the start over, thus wasting nearly seven years of time and money by both the Forest Service and the public. The GWNF staff and public have already spent more than three years working under the 2005 and 2008 planning regulations before the courts ordered a halt to the use of these planning regulations. We have been told to start over under the 1982 planning rule. It would be a terrible waste to spend several **more** years producing a plan that will have to be redone if the 1982 planning process is not implemented with attention to established procedures.

We have brought our concerns to the attention of the GWNF staff, the Regional Office and the Washington Office by phone calls, emails, written statements and presentations at IDT meetings. We had hoped that bringing our concerns about departure from the 1982 process would have resulted in corrective action by now. While withdrawing the March 10 NOI, preparing a more robust list of preliminary issues, and reissuing a more focused NOI will result in a short delay, we believe it is better to take a few weeks now to get the planning process back on track than to spend several years doing it wrong and then several years more years redoing it under new planning regulations (which may or may not be free of legal challenges in the foreseeable future.)

Thank you for your attention to this matter. Please contact us if you have any questions about our comments.

Sincerely,

/s/ James E. Loesel

James E. Loesel, Secretary

cc: Liz Agpaoa, Regional Forester
Jerome Thomas, Deputy Regional Forester
Tony Tooke, Director, EMC
Richard Cook, Deputy Director, EMC
Henry Hickerson, Deputy Supervisor, GWNF

Citizens Task Force on National Forest Management
2428 Guilford Avenue
Roanoke Virginia 24015

March 25, 2010

Maureen Hyzer, Supervisor
George Washington & Jefferson National Forests
5162 Valleypointe Parkway
Roanoke, VA 24019

Re: COMMENTS ON GWNF ROS MAP

Dear Forest Supervisor Hyzer:

The Citizens Task Force on National Forest Management has the following preliminary comments responding to the Notice of Intent to revise the George Washington National Forest Land and Resource Management Plan which appeared in the Federal Register on March 10, 2010. We will provide more detailed comments later, but we believe it is important to bring to your attention at an early date some serious deficiency with the process you are following in revising the GWNF plan.

The NOI says we should comment on documents that are contained on the GWNF web site. A cursory count shows 37 **new** documents for the public to review, plus scores of old documents---the exact number is irrelevant. One of documents the public is asked to review is a Recreation Opportunity Spectrum map of the GWNF. Information such as the ROS mapping should be reviewed by the public in the draft EIS/plan stage, after analysis has been conducted under the planning process set up under the 1982 regulations. The ROS allocations across the GWNF will vary according to the alternative that is formulated. Until the alternatives have been formulated and analyzed to see which of them should be preferred and developed into a plan, it is premature to speculate what ROS class will be appropriate to assign to various parts of the forest. To put forward a document now showing ROS allocations before the earlier steps in the 1982 planning process have been completed will bias the decision.

The purpose of a NOI is to begin the scoping process for the public and to notify the public about scoping meetings, not comment on aspects of the final plan. By presenting a large volume of documents for the public to review, the public attention is diverted from the scoping tasks. To the extent that members of the public spend time on reviewing draft documents instead of issues, the quality of the development of issues will be diminished and the subsequent planning steps, which are based on issues, will also be diminished. We believe the March 10 NOI should be withdrawn and reissued later with a

focus on scoping the issues that should be addressed in the development of alternatives and plan.

Even though we prefer some other mode of revising the GWNF plan and are participating in the formulation of a new planning rule, we want to make certain that the GW plan is revised according to the 1982 regulations as has been ordered by the Chief. We want to assure that the resulting plan can withstand the legal scrutiny that all plans seem to undergo after completion. We do not want to repeat the experience of the first GWNF plan that was challenged by a coalition of national groups and eventually withdrawn by the Chief because it did not follow NEPA and NFMA procedures. The GWNF staff was told the start over, thus wasting nearly seven years of time and money by both the Forest Service and the public. The GWNF staff and public have already spent more than three years working under the 2005 and 2008 planning regulations before the courts ordered a halt to the use of these planning regulations. We have been told to start over under the 1982 planning rule. It would be a terrible waste to spend several **more** years producing a plan that will have to be redone if the 1982 planning process is not implemented with attention to established procedures.

We have brought our concerns to the attention of the GWNF staff, the Regional Office and the Washington Office by phone calls, emails, written statements and presentations at IDT meetings. We had hoped that bringing our concerns about departure from the 1982 process would have resulted in corrective action by now. While withdrawing the March 10 NOI, preparing a more robust list of preliminary issues, and reissuing a more focused NOI will result in a short delay, we believe it is better to take a few weeks now to get the planning process back on track than to spend several years doing it wrong and then several years more years redoing it under new planning regulations (which may or may not be free of legal challenges in the foreseeable future.)

Thank you for your attention to this matter. Please contact us if you have any questions about our comments.

Sincerely,

/s/ James E. Loesel

James E. Loesel, Secretary

cc: Liz Agpaoa, Regional Forester
Jerome Thomas, Deputy Regional Forester
Tony Tooke, Director, EMC
Richard Cook, Deputy Director, EMC
Henry Hickerson, Deputy Supervisor, GWNF

Planning.comments.form@svinet2.fs.fed.us

04/18/2010 10:55 AM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject

Submitted by: Mike Moran
At: kcm.9406@cox.net
Remark: In the concern of perserving the environmental entegrity of of the George Washington Forest, I urge you to protect all tghe existing old growth forest and sufficient habitat for all endangered or threatened species. Additional, I recommend that you increase substantially more areas for wilderness and reduce logging and road building and oil and gas leasing in this national treasure.

Planning.comments.form@svinet2.fs.fed.us

04/19/2010 04:23 PM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject

Submitted by: jim bier
At: bier888@hotmail.com
Remark: Include reintroduction of American Chestnut Foundation\'s fully resistant 15/16 Amer./Chinese trees into the Washington Natl. forest. Do not permit old growth logging and its associated habitat destruction. Manage motorized off-road vehicles access to permit recreation and protect environment from stream quality degradation.

Jeff Kelble
<jeff@shenandoahriverkeeper.org>
04/19/2010 08:38 PM

To comments-southern-georgewashington-jefferson@fs.fed.us
cc
bcc
Subject Public Comments National Forest Plan

I would like to provide the following comments regarding the development of the National Forest Plans for the Geoge Washington National Forest. Thank you for adding these to the public record and for considering these comments:

Provide For Comprehensive Management of Drinking Water Resources

The GW National Forest supplies drinking water to a quarter of a million Valley residents. SVN and 40 local governments or civic groups adopted resolutions in the past two years calling on the Forest Service to provide comprehensive protection of drinking water resources. The new Forest Plan should:

· Identify and map the health of entire drinking watersheds in the forest, not just the perimeters around public reservoirs or the buffers on streams.
· Develop specific management objectives for these watersheds that make it just as important to preserve, protect or enhance water quality in sensitive watersheds as it is to facilitate other forest activities.
· Create and implement a plan to monitor the health of drinking water resources (reservoirs, rivers, streams, watersheds) to ensure a continued supply of clean water from the forest.
· Work with local communities, agencies and the public to permanently maintain water quality from forest sources, and thus avoid the costly need for public water treatment plants.

Protect Sensitive Mountain Ridges from Industrial Wind Energy Development

In 2009, the GW National Forest denied a request from a private company to build 131 wind turbines in the forest on Great North Mountain, an action we strongly endorsed. The forest's public lands are not the right place for commercial wind power projects.

· The destructive impacts of road building, clearing and construction fragments the forest landscape and affects water quality and wildlife habitat.

· Wind energy towers impact the natural views and vistas valued by forest visitors and local residents.
· Operation of large-scale wind turbines on our Appalachian ridges can have substantial impacts on wildlife, particularly rare bat species and migratory birds.
· There is plenty of private land with equal potential to generate wind power, before public lands are ever developed.

Protect Ground and Surface Water from Marcellus Shale Natural Gas Drilling

The GW National Forest lies on top of the Marcellus Shale geological formation, a promising source of natural gas. Reportedly, there are 30,000 acres of private lands in the northern Shenandoah Valley now under lease for natural gas drilling. Yet there are not sufficient federal or state regulations to protect water quality from the impacts of a gas mining process called hydraulic fracturing, despite reports of water contamination and other public risks. The new Forest Plan should:

· Prohibit any natural gas leasing or drilling within the 44 percent of the GW National Forest, a total of 425,874 acres, which contains watersheds for the five public reservoirs and eight rivers or creeks that provide public drinking water in the Shenandoah Valley.
· Impose a moratorium on natural gas leases elsewhere in the forest until the U.S. Environmental Protection Agency completes a national study on, and develops regulations governing, the water quality and public health impacts of Marcellus Shale natural gas drilling.

--
Jeff Kelble
Shenandoah Riverkeeper
P.O. Box 405
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Website: www.shenandoahriverkeeper.org
Recognized as "one of the best small nonprofits" by Catalogue for Philanthropy

United Way # 9335 * CFC # 87828 *

Shenandoah Riverkeeper uses citizen action and enforcement to protect and restore water quality in the Shenandoah River Valley for people, fish and

aquatic life

Cathy or Charlie Strickler
<ccsces2000@msn.com>

04/21/2010 11:13 AM

To <comments-southern-georgewashington-jefferson@fs.fed.us>
cc
bcc
Subject comment george washington plan revision

We would like to endorse the proposal of the friends of shenandoah mountain. Their proposal looks well thought out and takes into account many different groups. We have used and enjoyed many of the wilderness areas in Va and WVa. We are also very concerned with climate change issues and want to see everything possible done to keep carbon sinks in tact. Thank you for these considerations. Charlie and Cathy Strickler

1225 Hillcrest Dr
Harrisonburg, Va 22801

Al Burt
<dcamiadca@yahoo.com>
04/22/2010 04:07 PM

To comments-southern-georgewashington-jefferson@fs.fed.us
cc
bcc
Subject Windmill Farms

Dear Sir/Mam

In addition to the obvious negative effects on the hiking experience of windmill farms littering up the ridge lines of our forests, there are several other problems with these industrial monsters. Attached and below are some of the problems with wind farms that have produced complaints in the press over the last year or so, arranged in order of frequency. Don't let our beautiful GW National Forest become another Tehachipy Pass.

Al Burt
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703-521-9629

PUBLIC OBJECTIONS TO WINDMILL FARMS: Cited from some 100 published news articles dated from July 2008 to January 2010 and arranged in order of frequency by William Burt
dcamiadca@yahoo.com

Scenery Destruction: Windmill farms perched on mountain ridges, visible from up to 47 miles,

“Obscure, Distort, and Detract From the Dignity of the Scenery” (quoting Frederick Law Olmsted) for an area of some 7074 square miles.

Health Hazard: Helicopter like thump-swish noise heard for miles around in a quiet rural setting causes migraine headaches, sleep deprivation, heart disease, and depression. Shadow flicker causes vertigo, panic attacks, and other wind turbine syndrome (WTS) effects.

Bird Hazard: Collisions with turbines kills birds and bats.

Property Value Decline: Caused by anticipated loss of quality of life.

Safety Hazard: Turbine fragments and Ice can fly off windmills in a strong wind.

Spiritual Grounds Violated: Would you want a 450 ft. high windmill attached to your church steeple?

Quality of Life Destroyed: Windmill farms have the same bad effect on a local area as any industrial encroachment.

Radar Interference: Air traffic control, air defense, and weather radars disrupted by windmill reflections.

Unreliable Energy Source: Backup energy source (coal, nat gas, or nuc) needed for windless times.

Tourism Adversely Affected:

Would you visit Philadelphia to see its bus station?

Financial: Locals suffer increased cost of electricity and taxes in some cases.

Mercenary Priorities: Manufacturer's and installer's profits are often emphasized over environmental considerations.

Roads: Construction of required new roads and wear and tear of existing roads disrupts local traffic and causes pollution.

Phone Line Interference: Electromagnetic field emissions from new high power lines can cause static.

Wasted Power: Lack of adequate grid capacity can prevent the exporting of any surplus power.

Farm Land Disruption: Windmill farms and new transmission wires can fracture otherwise contiguous farm land.

National Grid System Upset: Existing grid not designed for sporadic windmill farm power inputs.

Motorist Distraction: Initial exposure to huge windmill farm sightings threatens driving concentration.

Lack of Local Citizen Input: Projects often started without adequate local hearings or comment periods.

Better Options: A single two reactor nuclear power plant, emitting harmless steam into the atmosphere, provides the same power as a 388 mile long windmill farm. Reducing energy waste by 3% per year by pricing in higher energy taxes would eliminate the need for increased energy supply for at least ten years.

Irreversibility: Tower removal and tree replacement not likely even if a better source of power is found later.

Air Flow Disruption: Rotating blades slow natural air flow and induce turbulence affecting downstream winds.

Construction Runoff: Tree removal along with 100 foot wide road construction pollutes local streams.

Public Complaints.doc

PUBLIC OBJECTIONS TO WINDMILL FARMS: Cited from some 100 published news articles dated from July 2008 to January 2010 and arranged in order of frequency by William Burt dcamiadca@yahoo.com

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April 22, 2010

George Washington Plan Revision
George Washington & Jefferson National Forests
5162 Valleypointe Parkway
Roanoke, VA 24019

Dear Planning Team:

I am writing on behalf of Friends of Shenandoah Mountain, a local coalition based in the Shenandoah Valley, formed to work for permanent protection of Shenandoah Mountain, Laurel Fork and Kelley Mountain-Big Levels. We wish to resubmit our comments dated October 30, 2008 (see attachment). Our comments provide details about our proposal to make a) Shenandoah Mountain between Rt. 250 and Rt. 33 a National Scenic Area with core areas within designated as Wilderness; b) Laurel Fork a Wilderness area, and c) Kelley Mountain – Big Levels a National Scenic Area.

The Shenandoah Mountain Proposal was developed as a collaborative effort involving diverse national forest user groups and others who care about the areas and the many benefits they provide. We are attaching a list of businesses, faith groups, and organizations that have endorsed the Shenandoah Mountain Proposal as of April 17, 2010. Please note the diversity of groups represented on this list. The collaboration among wilderness advocates, mountain bikers, horseback riders, business owners, civic organizations, faith groups, water organizations, bird clubs, wildflower clubs, and environmental groups shows that there is strong support for this proposal. Collectively, the groups involved represent tens of thousands of individuals who would like to see these areas permanently protected. We ask that you respond to this collaborative approach by recommending these areas be protected as Wilderness and National Scenic Areas.

We now have better maps of the proposed areas. I am attaching maps of a) the proposed Shenandoah Mountain National Scenic Area with core

Wilderness areas; b) the proposed Laurel Fork Wilderness; and c) the proposed Kelley Mountain-Big Levels National Scenic Area.

Thank you for the opportunity to participate in the development of a new forest plan.

Sincerely,

Lynn Cameron
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Thomas Jenkins
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Attachments:
Friends of Shenandoah Comments on Forest Plan, October 30, 2010
Map of Proposed Shenandoah Mountain National Scenic Area (with proposed Skidmore Fork, Little River, Lynn Hollow, and Bald Ridge Wilderness areas shown within)
Map of Proposed Kelley Mountain- Big Levels National Scenic Area
Map of Proposed Laurel Fork Wilderness
List of Endorsers as of 4/17/2010

October 30, 2008

George Washington Plan Revision
George Washington & Jefferson National Forests
5162 Valleypointe Parkway
Roanoke, VA 24019

Dear Planning Team:

The following comments on the George Washington National Forest plan and enclosed maps are submitted by Friends of Shenandoah Mountain, a group dedicated to protecting and promoting the ecological and recreational values of national forest land on Shenandoah Mountain, particularly the section between Rt. 250 and Rt. 33. The Friends group is composed of wilderness advocates, mountain bikers, hikers, and other forest users who would like to see the outstanding values of Shenandoah Mountain preserved to benefit this and future generations. Our comments and our proposal are the result of several years of collaboration and compromise, and such efforts with other user and interest groups continue. We propose a protection strategy that would:

- Protect the national forest land on Shenandoah Mountain in Virginia between Rt. 250 and Rt. 33 from roadbuilding, logging, wind development, and other activities that would mar the natural character and degrade the recreational opportunities of the area;
- Provide the highest protection of Wilderness designation to the most special wild places between Rt. 250 and Rt. 33: Skidmore Fork, Little River, Bald Ridge, and Lynn Hollow;
- Keep existing roads accessible to hunters, campers, and other forest users;
- Keep most trails in the area accessible to mountain bikers and provide new trails that would enhance recreational opportunities for both mountain bikers and hikers;

In addition to Shenandoah Mountain we ask for permanent protection of two other special areas that we value highly:

- Laurel Fork as Wilderness (located in Highland County on the border with West Virginia)
- Kelley Mountain/Big Levels as a National Scenic Area (located south of Waynesboro in the Blue Ridge Mountains)

Boundaries for the proposed Shenandoah Mountain National Scenic Area and Wilderness areas exclude all private land. The proposed boundaries apply to federal land only. Private landowners will continue to have access to their property and will retain all their rights. This proposal does not in any way recommend condemnation of private land.

Shenandoah Mountain National Scenic Area (see attached map)

Friends of Shenandoah Mountain asks that the Forest Service recommend Shenandoah Mountain between Rt. 250 and Rt. 33 for National Scenic Area designation with core areas as Wilderness.

Rationale

Shenandoah Mountain offers some of the most spectacular scenery in Virginia. The undulating ridgeline serves as a backdrop for the Shenandoah Valley, enjoyed daily by those of

us fortunate enough to live in the Valley and those who pass through on Interstate 81 alike. When we see a storm coming or a glorious sunset, we look toward Shenandoah Mountain. Those who venture to Reddish Knob are inspired by the panoramic view of the surrounding area. Shenandoah Mountain is more than a beautiful mountain; it is part of our culture and history. Protecting its beauty should be our generation's legacy to our children and grandchildren

The 115,000-acre section of Shenandoah Mountain that lies in Virginia between Rt. 250 and Rt. 33 knits together one of the most significant concentrations of roadless wildlands in the Southern Appalachians. It includes the 6,519-acre Ramseys Draft Wilderness, which was designated by Congress in 1984. Ramseys Draft is the only area on Shenandoah Mountain that is part of the National Wilderness Preservation System. The Shenandoah Mountain National Scenic Area proposal includes the following seven areas identified in *Virginia Mountain Treasures*: *The Unprotected Wildlands of the George Washington National Forest* (The Wilderness Society, 2008):

- Gum Run – 14,665 acres
- Skidmore Fork – 5,703 acres
- Little River – 29, 342 acres
- Hankey Mountain – 11, 281 acres
- Oak Knob – 10,866 acres
- Bald Ridge and Lynn Hollow – 17, 933 acres

It is bounded on the western side by two additional Mountain Treasures: Dry River (12,939 acres) and Broad Run (5,047 acres) in West Virginia. The area has few roads, but certainly enough roads to provide access for sportsmen, recreationalists, and naturalists.

The Shenandoah Mountain area between Rt. 250 and Rt. 33 includes 10 named peaks that rise above 4,000 feet:

- High Knob – 4,080
- Bother Knob – 4,344
- Dundore Mountain – 4,101
- Flagpole Knob – 4,360
- Reddish Knob – 4,397
- Dyers Knob – 4,120
- Little Bald Knob – 4,351
- Big Bald Knob – 4,120
- Hardscrabble Knob – 4,282
- Tearjacket Knob - 4,229

The highest point is Reddish Knob which offers a 360-degree panoramic view of surrounding mountain valleys.

The area provides habitat for numerous plants, animals, and natural communities deemed special enough by scientists and government agencies to require protection. One of these, the Cow Knob Salamander, is found no where else on earth. The Shenandoah Mountain Crest – Cow Knob Salamander Conservation Area, a 43,000 acre area above 3,000 ft in elevation, is home to a variety of rare species and unique natural communities, including at least 15 species of plants and at least 13 species of animals and their habitats. This Shenandoah Mountain Crest includes the following Virginia Division of Natural Heritage Conservation sites:

- Bother Knob- High Knob – 1,618 acres
- Dunkle Knob – 25 acres
- Little Bald Knob – 10,866 acres
- Maple Springs – 102 acres
- Puffenbarger Glade – 147 acres
- Reddish Knob – 4,092 acres
- Skidmore – 2,313 acres

Although protected in the National Forest Plan, Shenandoah Mountain Crest has no permanent protection.

Water resource

Shenandoah Mountain's eastern flank forms a major drainage divide for the headwaters of two major rivers, the Potomac to the north and the James to the south, both of which flow into the Chesapeake Bay. The North River and its tributaries drain most of the Shenandoah Mountain area, flowing into the Shenandoah River and on to the Potomac River. Ramseys Draft, Shaws Fork, and the Calfpasture flow from the southern end to the James River. Several streams in the Shenandoah Mountain area support native trout populations.

Perennial springs high on the mountains give rise to numerous pure streams, such as Skidmore Fork, North River, Black Run, Gum Run, Maple Springs Run, Little River, Hone Quarry Run, Briery Branch , Shaws Fork, Calfpasture River, and Ramseys Draft. These streams support aquatic life and provide abundant clean drinking water for municipalities in the Shenandoah Valley, including Harrisonburg, Staunton, and Bridgewater. Some of these mountain streams are dammed for municipal water supply, flood control, and recreation. Reservoirs and recreational lakes in the Shenandoah Mountain NSA include:

- Skidmore Fork Lake (Switzer Reservoir) – a principal water source for Harrisonburg
- Union Springs
- Hone Quarry Reservoir
- Briery Branch Reservoir
- Hearthstone Lake
- Todd Lake
- Elkhorn Lake
- Staunton Reservoir – a principal water source for Staunton
- Puffenbarger Pond
- Braley Pond

The value of these streams and reservoirs will increase as our population grows and clean water becomes more scarce. National Scenic Area designation would provide permanent protection of these critical watersheds. Reservoirs and lakes would continue to be maintained.

History

The forest primeval that had existed on Shenandoah Mountain was reduced to a wasteland in the latter half of the nineteenth century due to promiscuous expansion and exploitation. Farming, mining, and logging all took their toll. During the same period turkey, bear, deer, and many other species were driven nearly to extinction in western Virginia due to overhunting and poor land management practices. The damage to the watershed from all the mining, logging, and subsequent burning led to clogged streams and flooding. When the forests were gone, repeated fires degraded the soils and stunted new growth. Even the forests today are poorer because of the soil damage and loss.

In response to all the devastation of the mountain forests, the U.S. Congress passed the Weeks Act in 1911, giving the federal government authority to purchase the mostly wasted land to protect watersheds. The Shenandoah Purchase Unit, which includes the Shenandoah Mountain area, was among the first land to be purchased.. The newly purchased forest land became Shenandoah National Forest in 1917. The name was changed to George Washington National Forest in 1932 to avoid confusion with Shenandoah National Park to the east of the Valley.

Initially, local mountain people did not take well to the federal government acquiring the land; many set fires on the land purchased by the government. Up through the 1920s, forestry officials estimated up to 94 percent of the fires were caused by man. In response to the natural and man-caused fires, a fire warden system was developed. It was invented in the George Washington National Forest and then later spread to other eastern and southern forests. A warden would be in charge of an area and would have a crew of local firefighters. One of these was organized from the students of Bridgewater College. Fire wardens used remote lookout towers and telephone lines for spotting fires and calling for help. Several of these fire towers were located on Shenandoah Mountain: High Knob (still standing and renovated in 2001-03), Bother Knob, Flagpole Knob, Reddish Knob, and Hardscrabble Knob The fire warden system began to fade out between the 1940s through 1960s when Smokey Bear began to fight forest fires. Then aerial flights were used to detect fires, eliminating the need for men in towers. By the 1980s there were enough people living close to the forest to see and report fires, making even aerial flights unnecessary.

During the period between 1910 and 1925, chestnut blight moved through the area, killing the most productive and dominant species in the forest.

The Great Depression caused timber prices to plummet. President Roosevelt, however, poured New Deal money into land acquisitions for the National Forests. He also started the Civilian Conservation Corps (CCC) in 1933, providing 9,200 unemployed young men in Virginia with meaningful work and modest pay sufficient to support their families. The first CCC camp in the nation was located at Camp Roosevelt in the George Washington National Forest. Fourteen camps were located in the GW, with at least one located along the North River at Camp Todd in the Shenandoah Mountain area. The workers built roads, telephone lines, trails, and campgrounds. Shenandoah Mountain was and continues to be the beneficiary of work done by the CCC in its nine years of existence. Even on remote trails in the backcountry, one can see CCC rockwork that still holds the trail in place today.

As the forests and streams began to recover from past abuse, the Forest Service began to sell timber and develop the area for recreational and scenic values. The State of Virginia began to manage wildlife as it returned to the recovering landscape. The two agencies worked together to develop small herds of deer and stock streams with trout. They even tried to reintroduce elk in 1917 and 1935, but efforts were unsuccessful because too much of the species' undisturbed habitat was already gone. In 1960, the Multiple Use act was passed. In 1964 the Wilderness Act was passed and was followed by the Eastern Wilderness Areas Act in 1975. Although the U.S. Congress has designated Wilderness areas in Virginia four times, only one of these, Ramseys Draft Wilderness (6,518 acres), is located in the proposed Shenandoah Mountain National Scenic Area. This is despite several initiatives by citizens groups over past decades to add more of Shenandoah Mountain to the Wilderness system.

In addition to destruction caused by man, Shenandoah Mountain has experienced several significant natural events. The flood of 1949 scoured the Little River and caused major flooding downstream along the North River and in the town of Bridgewater. This flood provided the impetus for the construction of the series of flood-control dams in the headwaters of the North River drainage. In 1985, Shenandoah Mountain again experienced a major flood with over 20 inches of rain in a few days. In the mid-1980s the invasive gypsy moth made its way to the area, defoliating and killing

trees along the way, particularly on ridgetops. The gypsy moth population crashed suddenly in 1996 due to the fungus (*Entomophaga maimaiga*).

Following World War II, society became more mobile and prosperous. Recreational use of the forest increased by leaps and bounds.

Source: Satterthwaite, Jean L. *George Washington National Forest: A History*. USFS, 1993 and USFS web site.

Recreational opportunities

Today Shenandoah Mountain offers a wide array of recreational opportunities ranging from mountain biking to bird watching. Although there are plenty of roads and trails for access, this area offers some of the best opportunities in Virginia to go deep into the forest and be several miles from a road.

- **Scenic drives** Although relatively unfragmented by roads, the Shenandoah Mountain area has a sufficient network of roads for visitors to enjoy the beauty of the mountains by automobile. A drive to Reddish Knob offers spectacular views of the Allegheny Mountains in Virginia and West Virginia, as well as the Valley below. It may be the best place in the mountains of Virginia to view a sunrise or sunset. In contrast a drive along Forest Road 95 offers close views of the North River tumbling out of the mountains with numerous roadside campsites readily available for an overnight stay in the forest. Forest Roads 85 and 101 provide interior access as well as roadside views.

- **Historic sites** Shenandoah Mountain has a rich history, and several sites are well preserved evidence of the past. The Civil War Confederate Breastworks, High Knob Fire Tower (built by the Civilian Conservation Corps and Veterans of World War I), and campgrounds and trails constructed by the CCC remind us of our past. In fact the current North River Campground was a CCC camp in the 1930s.

- **Hunting** The Shenandoah Mountain area provides exceptional habitat for bear and other species that need a remote undisturbed area. Mature forests with a full canopy help fill the need for a particular type of habitat not met by the more fragmented surrounding forest and private land. The entire area is well-known by hunters from the Valley and all over Virginia. Numerous roads provide ample access for good hunting.

- **Fishing** Streams and reservoirs in the Shenandoah Mountain area are popular for fishing. The Virginia Department of Game and Inland Fisheries routinely stocks most reservoirs and selected streams. Several streams, such as Little River and Ramseys Draft, have been designated as Native Trout Streams. Reservoirs popular for fishing include Switzer Lake, Hone Quarry Lake, Briery Branch Lake, Hearthstone Lake, Staunton Dam, Elkhorn Lake, Todd Lake, and Braley Pond.

- **Camping** The Shenandoah Mountain area in Virginia between Rt. 250 and Rt. 33 has four campgrounds: Todd Lake, North River, Hone Quarry, and Braley

Pond. Roadside camping and exceptional opportunities for backcountry camping serve those who prefer a more primitive camping experience.

- **Picnic areas** Picnic areas in the Shenandoah Mountain area are dispersed in appealing, accessible locations along a road, near a lake or stream, or deep in the forest.
    - Braley Pond
    - Mountain House
    - Staunton Reservoir
    - Todd Lake
    - Hone Quarry

- **Hiking/Backpacking** Virginia's Shenandoah Mountain between Rt. 250 and Rt. 33 offers a network of 150 miles of trails that appeal to all levels of hikers from those who want challenging, long trails to those who prefer a short stroll in the forest. Two trails of particular significance are:
    - **Wild Oak National Recreational Trail** – a challenging 25-mile loop that ascends Little Bald Knob, Big Bald Knob, and Hankey Mountain.
    - **Shenandoah Mountain Trail** – a ridgeline trail that extends from Rt. 33 to Rt. 250. This trail is part of the new shared-use Great Eastern Trail that is planned to extend from New York to Florida.

  The Shenandoah Mountain area is large enough that a backpacker can walk several days without crossing a road. Opportunities for this type of remote backcountry recreation are rare in the eastern United States.

- **Mountain Biking** A November 16, 2001, Washington Post article by Jeb Tilly describes the Little River area the best mountain biking in the state with "world-class downhills." All trails in the Shenandoah Mountain area are open to mountain biking except for those in Wilderness areas. The proposed Wilderness area boundaries were drawn carefully to keep popular trails accessible to mountain bikers.

- **Horseback Riding** Nearly all trails are open to horseback riders, including those in Wilderness areas.

- **Birdwatching** The list of bird species in the area could easily reach 250, making it an ideal destination for birdwatching. The range of elevations from 1,600 ft to well above 4,000 ft makes it possible for the serious birdwatcher to see a wide variety of birds including warblers, neotropical migratory songbirds, and birds of prey, such as hawks, eagles, and peregrine falcons. *Discover Our Wild Side*, a new guide book by the Virginia Department of Game and Inland Fisheries that highlights the best wildlife viewing spots in Virginia, points readers to several areas on Shenandoah Mountain: the North River loop, Switzer Lake area, Hone Quarry area, Briery Branch Dam and Lake, Flagpole Knob, Reddish Knob, Hearthstone Lake, and Todd Lake.

- **Astronomy** Reddish Knob is one of the best places in the region to gaze at the stars. Because it is in a remote, undeveloped area, it is dark enough to allow the wonders of the galaxy to show through.

With energy costs rising, local families may take vacations closer to home. Shenandoah mountain area is an excellent destination. Protection of the area will ensure that the

natural characteristics of the area and the quality of the visitor's experience will remain high.

A National Scenic Area would attract tourists and provide substantial benefit to the local economy. Tourists who visit the area will eat at local restaurants and buy supplies from local businesses.

Within the Shenandoah Mountain National Scenic Area, we ask that four outstanding wild areas be recommended for Wilderness designation.

Little River Wilderness (see attached map) – The Little River is the heart of the Shenandoah Mountain area and serves as an exceptional candidate for Wilderness designation. Given its size and isolation from human influences, this area is a productive haven for black bear and many species of birds, and it provides exceptional opportunities for primitive recreation.

Our proposal is for the entire Little River watershed, which extends from Reddish Knob at nearly 4,300 ft. in elevation down to Hearthstone Lake, and the entire Middle Mountain area. The total acreage of the area is 12,490. The proposed Wilderness area lies within a boundary formed by Timber Ridge Trail, Hearthstone Ridge Trail, Chestnut Ridge Trail, Little Bald Mountain Road, Forest Road 101, and several tracts of private land on the west side of Forest Road 101. The Wilderness boundary would be set back from FR95 and the private land to provide a buffer and allow space for construction of a new connector trail between Hearthstone Ridge Trail and Chestnut Ridge Trail. The proposed Wilderness boundary excludes Hearthstone Lake. Mineral rights for portions of the lower Little River area and part of Middle Mountain near Forest Road 101 are privately owned. We encourage the Forest Service to acquire these mineral rights when feasible.

These proposed boundaries are significantly smaller than the 28,000-acre Little River Special Management Area. The trails in the Little River area are very popular with mountain bikers. The reduced boundary will provide strong protection for the core area of Little River and Middle Mountain, while allowing mountain biking to continue on all trails except Buck Mountain Trail and Big Ridge/Grooms Ridge Trail. The remainder of the Little River Special Management Area would be protected as a National Scenic Area, which would provide protection similar to Wilderness designation without a restriction on mountain biking. No access roads would be closed or otherwise affected by this proposal. The area we are proposing for Wilderness is not being managed for timber now; Wilderness designation will not result in any loss of revenue or taxes for Augusta County.

Skidmore Fork Wilderness (see attached map) This 5,228-acre Wilderness proposal encompasses the major portion of the Skidmore Fork drainage, at the bottom of which lies Switzer Reservoir. The reservoir is a principal water source for the City of Harrisonburg. Wilderness designation would be the most positive assurance that this municipal water supply would be constant and pure. A prime feature of the area is a 1,400-acre patch of old growth in the headwaters of Skidmore Fork . The Virginia Division of Natural Heritage has identified ten rare species of flora or fauna within the area. Elevations range from approximately 2,400 ft to 4,300 ft at Flagpole Knob. Switzer Reservoir and private land extending from some distance above it along Skidmore Fork are outside the proposed Wilderness boundary, as is the wildlife clearing

at the end of FR 1197. The area is bounded by Dunkle Hollow Road, Shenandoah Mountain Trail, and the old Railroad Hollow Trail, which could be reopened to form a useful connector trail for hikers, bikers, and hunters. No access roads would be closed or otherwise affected by this proposal. The proposed Wilderness area is not being managed for timber now; Wilderness designation will not result in any loss of revenue or taxes for Rockingham County.

Bald Ridge Wilderness (see attached map) This proposal is for a 6,550-acre addition to the eastern and northern side of Ramseys Draft Wilderness that extends to the outer flanks of Bald Ridge down to 2,600 ft in elevation and encompasses Dividing Ridge and Springhouse Ridge all the way north to the Shenandoah Mountain Trail. This area was all part of the original Ramseys Draft Wilderness proposal.

This proposal lies within boundaries formed by Bridge Hollow Trail, following a 2,600 ft contour to and along FR 95 to the Shenandoah Mountain Trail, but set back enough from the road to allow for family car camping along the North River, as well as construction of a new trail that would connect trails in the North River headwaters area to Braley Pond area and Bridge Hollow Trail. The Dividing Ridge Trail and Springhouse Ridge Trail would both be within the proposed Wilderness area and would therefore not be open to mountain biking. Both trails, however, are very steep and currently serve as deadends to bikers when they reach the Ramseys Draft Wilderness boundary. For this reason they are not currently used much. New connector trails would enhance the recreational value of the trail network and would provide for more loop opportunities. Adding this outer flank of Bald Ridge to Ramseys Draft Wilderness will make a Wilderness of substantial size.

This proposal will not affect any access roads. This area is not being managed for timber; Wilderness designation will not result in any loss of revenue or taxes for Augusta County.

Lynn Hollow Wilderness (see attached map) This 6,168-acre area was originally part of the Ramseys Draft Wilderness proposal. It lies on the western flank of Shenandoah Mountain in Highland County and encompasses Freezeland Hollow, Lynn Hollow, and Sinclair Hollow. Sinclair Hollow Trail lies within the proposed Wilderness boundary.

The western Ramseys Draft Wilderness boundary is the ridgeline of Shenandoah Mountain. As the Shenandoah Mountain Trail weaves east and west of the ridgeline, it goes in and out of Ramseys Draft Wilderness fourteen times in five miles. We ask that a boundary adjustment be made that would make Shenandoah Mountain Trail the Ramseys Draft Wilderness boundary rather than the ridgeline. The trail would be a more definable boundary, and it would result in a slight increase of 20 acres for Ramseys Draft Wilderness. The Lynn Hollow Wilderness could then be a separate Wilderness area west of the Shenandoah Mountain Trail. Shenandoah Mountain Trail is a critical segment of the Great Eastern Trail, which is intended to be a shared use trail. With a boundary adjustment, the SMT would lie outside both Wilderness areas and could serve as a shared use trail.

This proposed Wilderness area will not affect any access roads. This area is not being managed for timber; Wilderness designation will not result in any loss of revenue or taxes for Highland County. Currently the mineral rights under this area are privately owned. We encourage the Forest Service to acquire these rights when feasible.

When viewed topographically, a Ramseys Draft Wilderness expanded by the addition of the outer flank of Bald Ridge and a separate Lynn Hollow Wilderness on the western flank of Shenandoah Mountain separated only by Shenandoah Mountain Trail would made a logical large wilderness area, while opening up access for recreational use.

In addition to asking for strong protection of the Shenandoah Mountain area, Friends of Shenandoah Mountain also asks for protection of two other special places:

Laurel Fork in Highland County, Warm Springs Ranger District (see attached map) – We ask that this remote 10,153-acre special management area be recommended for Wilderness designation; it is an ideal candidate. With elevations ranging up to 4,000 ft., it is one of the most beautiful and biologically rich areas in Virginia. It contains one of the finest examples of Northern Boreal natural community complexes in Virginia and is the only representative of the Allegheny Plateau Ecoregion within the commonwealth. At least 25 species of plants and animals have their only known occurrences in Virginia within this area. It is particularly known for salamanders, birds, beaver ponds, a spruce forest, and an exceptional native trout stream. It provides excellent opportunities for birdwatching, hiking, backpacking, and fishing. Citizen wilderness groups have considered this area to be one of the top candidates for Wilderness designation for 40 years. In the 1990s, a gas pipeline was constructed along the boundary of Laurel Fork. Ninety-six percent of Laurel Fork was under lease for mineral rights at that time. Conservation groups collaborated with the Forest Service to approach the holder of the leases. The holder agreed to relinquish surface occupancy of all the leases, and the easements are currently held by The Nature Conservancy. Given the successful outcome of this collaboration and cooperation, Laurel Fork has no mineral leases that would affect Wilderness designation. The Wilderness boundary would exclude Locust Spring Picnic Area.

Kelley Mountain/Big Levels (see attached map) in Augusta County, Pedlar Ranger District – This 12,895-acre area on the Blue Ridge Mountain range should be recommended for a National Scenic Area. It is a rich area that has long been recognized for its wildlife habitat potential. In 1935 President Roosevelt signed an act enlarging the Big Levels Game Refuge from the original 3,000 acres to more than 32,000 acres. The area ranges in elevation from 1,600 ft at the Coal Road to 3,440 ft at the summit of Flint Mountain. It is generally typical of the Blue Ridge province and consists of broadly sloping, steep-sided rocky ridges, drained by small steep-gradient freestone streams. An unusual feature is the Big Levels. This plateau averages 3,000 ft and is a remnant of the Summit Peneplain dating before the Blue Ridge upthrust. It is almost perfectly flat in some areas and is densely vegetated with pin oak, post oak, chestnut oak, Virginia pine, mountain laurel, rhododendron, wild azalea, black gum, and an extensive growth of young American chestnut. Green Pond, located at the western boundary, is a boggy remnant of the Summit Peneplain and is geologically older than the Blue Ridge upthrust. Wild turkey and whitetail deer are particularly abundant with a healthy population of black bear present along with smaller animals and birds. All streams draining the area with the exception of Orebank Creek contain populations of native Eastern brook trout. It has an extensive network of trails that are popular for mountain biking. Local clubs from Charlottesville and Harrisonburg maintain the trails in this area. Its proximity to Sherando and the Blue Ridge Parkway makes National Scenic Area designation appropriate. This status would protect the biological richness of the

area while allowing mountain biking to continue. The area is bounded by FR160 (which separates Kelley Mountain/Big Levels from St. Marys Wilderness), Coal Road, Blue Ridge Parkway land, and Sherando Recreation Area.

Conclusion

The area of Shenandoah Mountain between Rt. 250 and Rt. 33 is the largest and least fragmented continuous block of land remaining in the Central Appalachians. It provides exceptional natural beauty, wildlife habitat, trails, and scenic roads and overlooks. It supports a rich array of recreational opportunities, such as hunting, fishing, camping, biking, hiking, and nature study. Springs, streams, and rivers that flow from the area supply a precious, essential resource for the Valley and downstream. We believe that the best way these values can be permanently protected is through National Scenic Area designation with core wild areas designated as Wilderness. Our proposal would protect water quality and wildlife habitat, while supporting a rich array of recreational experiences that are important to our quality of life and the economy of our local area.

Laurel Fork is a remote, unique, and biologically rich area that would make an ideal candidate for Wilderness.

Kelley Mountain/Big Levels is a popular recreation area with rich biological resources; given its proximity to the Blue Ridge Parkway and Sherando Recreation Area, it would be well suited for a National Scenic Area.

Thank you for your consideration.

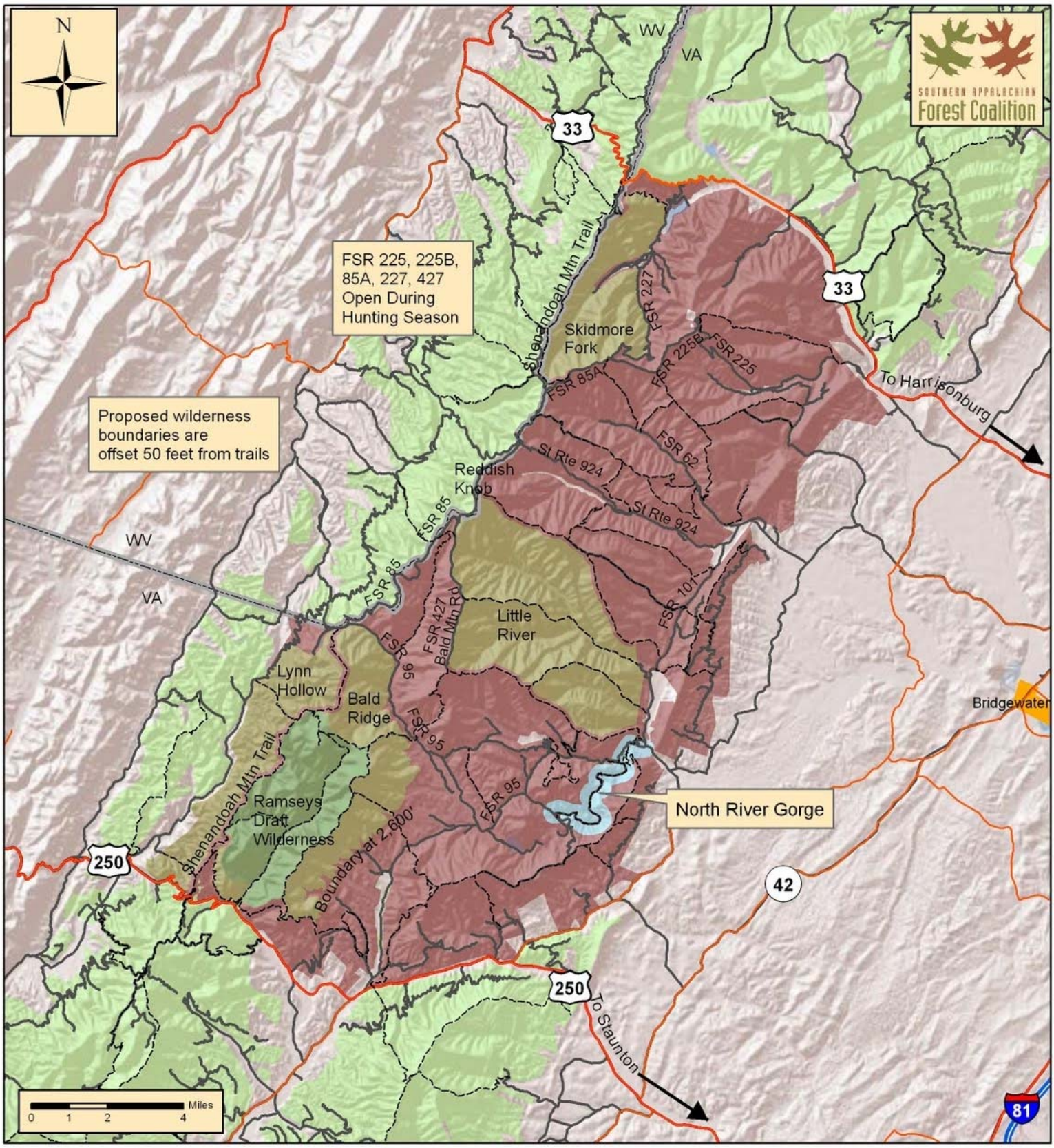
Sincerely,

Lynn Cameron
Co-Chair
Friends of Shenandoah Mountain
5653 Beards Ford Rd.
Mt. Crawford, VA 22841
(540)234-6273
camerosl@jmu.edu

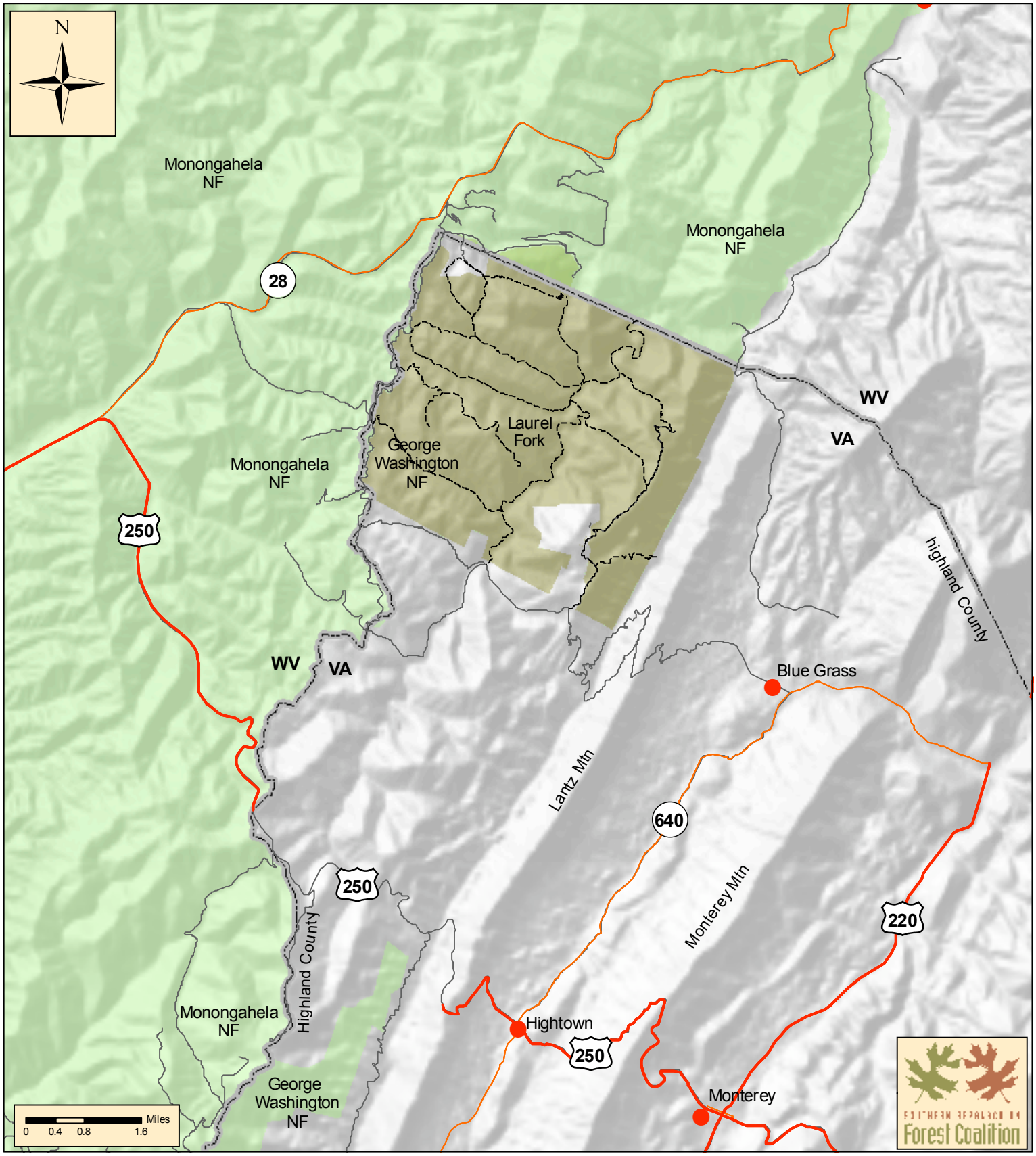
Thomas Jenkins
Co-Chair
Friends of Shenandoah Mountain
375 E. Wolfe St.
Harrisonburg, VA 22802
(540) 437-9000
tj@shenandoahbicycle.com

Attachments:
Map of Proposed Shenandoah Mountain National Scenic Area (with proposed Skidmore Fork, Little River, Lynn Hollow, and Bald Ridge Wilderness areas shown within)
Map of Proposed Kelley Mountain National Scenic Area
Map of Proposed Laurel Fork Wilderness

Shenandoah Mountain National Scenic Area Proposal



Laurel Fork Wilderness Proposal



Proposed Wilderness
Other National Forest Lands
Trails
US Highway
State and County Highway
Forest Service System Roads

Shenandoah Mountain Proposal Endorsers – as of 4/17/10

Local Businesses
Belle Grae Inn & Restaurant, *Staunton*
Black Dog Bikes, *Staunton*
Blue Mountain Coffees, *Staunton*
Blue Ridge Eye Associates, Harrisonburg
Blue Ridge Mountain Sports, Stores in *Charlottesville, Wintergreen, Blacksburg, Richmond, Glen Allen, Williamsburg, Warrenton, and Virginia Beach and in Tennessee and New Jersey*
The Bookery, *Lexington*
Books & Co., *Lexington*
Buckhorn Inn, *Churchville*
Cherry Hill Bed & Breakfast, *Monterey*
Clementine Cafe, *Harrisonburg*
Codis Cookies, *Bridgewater*
Daily Grind Coffee House, *Bridgewater*
Estland LC, *Harrisonburg*
Fairway Independent Mortgage, *Harrisonburg*
Friendship House Childcare, *Bridgewater*
Gallery of Mountain Secrets, *Monterey*
Home Remedy, Inc., *Harrisonburg*
Mark's Bike Shop, *Harrisonburg*
Mast Landscapes, *Mt. Crawford*
Metzler Interiors, *Harrisonburg*
Midtowne Market, *Harrisonburg*
Mossy Creek Fly Fishing, *Harrisonburg*
Nanny's Nook, *Bridgewater*
Outdoor Trails*, Lynchburg and Daleville*
North Mountain Trading, *Staunton*
Photo Agora, *Harrisonburg*
Ragtime Fabrics, *Harrisonburg*
Rockfish Gap Outfitters, *Waynesboro*
Ruth's Books and Cards, *Bridgewater*
Sally Newkirk, Realtor, Real Estate III, *Harrisonburg*
Scene 3 Boardshop, *Lynchburg*
Shenandoah Bicycle Company, *Harrisonburg*
Shenandoah Mountain Touring, *Harrisonburg*
Sole Source, *Harrisonburg*
Staunton Grocery
TeamLink / Shenandoah Mountain Guides, *Frederick*
WILD GUYde Adventures, LLC, *Harrisonburg*
Wilderness Adventure, *Staunton*
Wilderness Voyagers, *Harrisonburg*
You Made It Pottery*, Harrisonburg*
Zynodoa Restaurant, *Staunton*

Faith Groups
Christians for the Mountains
Creation Care Group, Harrisonburg Mennonite Church
Creation Care Group, Parkview Mennonite Church, *Harrisonburg*
Earth Care House Church, Trinity Presbyterian Church, *Harrisonburg*
Fellowship of Reconciliation - Harrisonburg Affiliate
Mennonite/Brethren Green Faith Initiative, *Harrisonburg*
Mt. Horeb Presbyterian Church, *Grottoes*
New Community Project, *Harrisonburg*
Trinity Presbyterian Church, *Harrisonburg*

Organizations - Shenandoah Valley and Nearby
Albemarle Garden Club, *Charlottesville*
Audubon Society of Northern Virginia
Augusta Bird Club
Charlottesville Area Mountain Bike Club
Queen City Cycling Club, *Staunton*
Rockingham Bird Club
Sierra Club - Shenandoah Group
Shenandoah Riverkeeper, *Boyce*
Shenandoah Valley Bicycle Coalition
Southern Shenandoah Valley Chapter of Potomac Appalachian Trail Club
Virginia Native Plant Society - Upper James River Chapter
Weyers Cave Ruritan Club

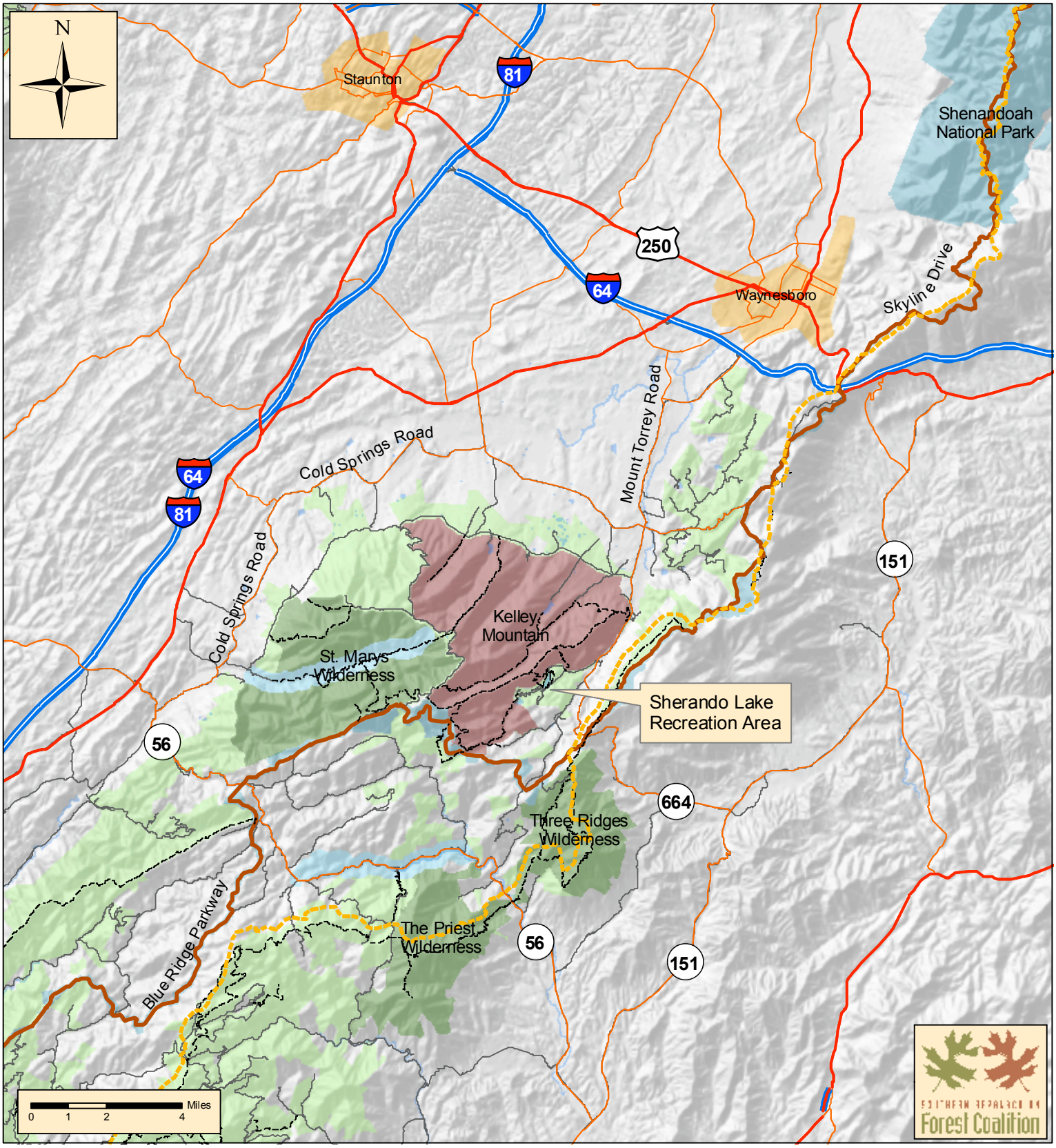
Organizations - Virginia
Back Country Horsemen of Virginia
(Golden Horseshoe Back Country Horsemen is the local chapter)
National Audubon Society, Virginia Important Bird Area (IBA) Program
National Parks Conservation Association - Virginia Field Office
Sierra Club Virginia Chapter
Virginia Bicycle Federation
Virginia Conservation Network
Virginia Forest Watch
Virginia Members of The Wilderness Society
Virginia Native Plant Society
Virginia Society of Ornithology
Virginia Wilderness Comittee

Organizations - West Virginia
Friends of Beautiful Pendleton County
Friends of Blackwater
Friends of the Allegheny Front
Laurel Mountain Preservation Association
Stewards of the Potomac Highlands

Regional Organizations
Great Eastern Trail Association
Mid-Atlantic Off Road Enthusiasts, Inc. (MORE)
Potomac Appalachian Trail Club
Potomac Riverkeeper
Southern Appalachian Forest Coalition
Southern Environmental Law Center

National & International Organizations
American Whitewater
International Mountain Bicycling Association
National Wildlife Federation
Scenic America
Sierra Club
The Wilderness Society

Kelley Mountain - Big Levels National Scenic Area Proposal



Proposed National Scenic Area
Wilderness
Eligible Wild and Scenic Rivers
Other National Forest Lands
National Park Land
Blue Ridge Pky and Skyline Drive
Appalachian Trail
Trails
Limited Access Highway
US Highway
State and County Highway
Forest Service System Roads

Lynn Cameron <slynncameron@gmail.com>

04/22/2010 10:57 AM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject Comments on Forest Plan

History: This message has been replied to.

Dear Planning Team,

Friends of Shenandoah Mountain wishes to submit the attached comments on the GW Forest Plan. You should find six attachments:

Cover Letter for Comments
Comments on Forest Plan, dated October 30, 2008
Map of Shenandoah Mountain National Scenic Area Proposal
Map of Laurel Fork Wilderness Proposal
Map of Kelley Mountain – Big Levels National Scenic Area Proposal
List of Endorsers as of April 17, 2010

Please let me know if you were unable to open any of these.

Thank you for the opportunity to comment.

Lynn Cameron
Co-Chair
Friends of Shenandoah Mountain

CoverLetterforComments.pdf FinalCommentsonPlan.pdf ShenMtnNationalScenicAreaMap.jpg LaurelFrk_100329[1].pdf
List of Endorsers as of 41710.pdf KellyMtn_100210_100dpi.pdf

Citizens Task Force on National Forest Management
2428 Guilford Avenue
Roanoke Virginia 24015

April 22, 2010

Henry Hickerson, Acting Forest Supervisor
George Washington & Jefferson National Forests
5162 Valleypointe Parkway
Roanoke, VA 24019

Re: COMMENTS ON APRIL 19 MEETING

Dear Acting Forest Supervisor Hickerson:

The Citizens Task Force on National Forest Management has the following comments on the public meeting held in Lexington on April 19.

In his long opening presentation, Ken Landgraf, the Planning Staff Officer, showed a slide showing a list of preliminary issues that the GWNF staff has compiled. This list was also posted on the wall of the break-out session I attended. I stated to the leader of the break-out session that this list should have been made available to the public before the meeting so the public would have had a chance to study it rather than "shoot from the hip" in commenting on the adequacy of this list. I repeated this comment to Ken Landgraf after the break-out session, and I requested that the list be posted on the GWNF web-site for the benefit of the public in preparing for the remaining public meetings and for preparing written comments responding to the March 6 NOI. I also requested that the comments from the public meetings should be posted so members of the public can see what additional issues and sub-issues have been identified at the break-out sessions.

We note that the list of preliminary issues and a summary of the comments from the April 12 meeting have now been posted on the Forest's web-site. We hope that the results of the other public meetings will also be posted quickly so they will be available for the public in time to prepare comments. There was no "general session" at the April 19 meeting in Lexington, so we have no idea what was discussed in the three other break-out session, let alone what was discussed at other meetings. For members of the public interested in making certain that all significant issues are identified so they may be addressed in development of alternatives, it is important to see if there are still significant issues have not been identified or listed by the Forest staff.

The list of potential issues presented at the April 19 meeting and now posted on the Forest web-site includes 20 categories. Below the document title is a note that says,

"There are numerous sub-issues within each category." It is just as important to reveal to the public the preliminary list of sub-issues as it is the more general issue categories. It is not sufficient to say that "Climate Change" or "Old Growth" or "Drinking Water" may be issue categories. It is necessary to outline the sub-issues for each of these general categories to see if meaningful responses can be developed in alternatives. Please post a revised document showing the numerous sub-issues within each category.

This is a task that should have been addressed by the Interdisciplinary Team in their meetings in January and February. Instead, they chose to spend most of their time on fine-tuning the draft plan that had been developed under the 2008 planning rule and in compiling 36 other documents. These documents were posted on the web-site and noted in the March 6 NOI as important background information for preparing scoping comments. The task that should be before the public at this time is to identify the issues that should be included in the revision. The only background material that is relevant to that task is a preliminary list of public issues that may have been gathered during the 2005/2008 planning process.

Please make the development of the issue/sub-issue document an immediate priority so this document can be presented to the public with sufficient time to develop comments responding to the scoping notice. Since the deadline for comments is only two weeks, we do not see how it is possible for your staff to develop the this necessary information and allow the public sufficient time to incorporate it in their comments. We urge you to extend the comment period by 30 days to allow sufficient time for completing these tasks.

Sincerely,

/s/ James E. Loesel

James E. Loesel, Secretary

cc: Liz Agpaoa, Regional Forester, R-8
Jerome Thomas, Deputy Regional Forester, R-8
Chris Liggett, Director, Planning R-8
Tony Tooke, Director, EMC, WO
Richard Cook, Deputy Director, EMC, WO
Maureen Hyzer, Forest Supervisor GWNF

Planning.comments.form@ svinet2.fs.fed.us

04/22/2010 12:08 PM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject

Submitted by: HILLARY VINCENT
At: Hillary.Vincent @fcps.edu
Remark: My husband and I and our entire fsmily support your current initiatives

Planning.comments.form@ svinet2.fs.fed.us

04/22/2010 01:16 PM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject

Submitted by: Jonathan Ottke
At: jonathan_ottke@hotmail.com
Remark: Please make sure not to have unsubstainable logging and gas or oild exploration in the GW National Forest. It is the source of my drinking water.

Thanks,

Jonathan Ottke

Planning.comments.form@ svinet2.fs.fed.us

04/22/2010 02:49 PM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject

Submitted by: John DesJardins
At: johnmdesjardins@gmail.com
Remark: As someone who was born in Virginia and lived moved of my life in the state, I urge you to safeguard these natural treasures. Virginia has already lost much of it\'s agricultural heritage to greedy and speculative developers. It\'s critical we preserve the national forests and keep them for current and future generations.

Some key actions you can take to protect these forests include:

· Protect all areas identified in the Virginia's Mountain Treasures publication by designating them as unsuitable for timber harvest, new roadbuilding, and surface-occupying oil and gas drilling

· Plan for climate change by protecting core wilderness areas, reducing forest fragmentation and decreasing and eliminating non-climate stresses such as logging, road building and oil and gas leasing

· Identify all qualified roadless areas and protect all roadless areas, whether previously inventoried or recently identified, consistent with the provisions of the 2001 Roadless Rule

· Protect the Shenandoah Mountain Area for its unique ecological and recreational attributes by endorsing the proposal for a National Scenic Area on Shenandoah Mountain as described on the Friends of Shenandoah Mountain Website: http://www.friendsofshenandoahmountain.org/

· Protect all existing Old Growth forest

· Protect all watersheds especially those that directly supply drinking water

· Protect and buffer all "Special Biological Areas"

· Protect sufficient habitat for all endangered, threatened and rare species—especially the Wood Turtle, the Cow Knob Salamander, Cerulean Warbler, and Indiana Bat

· Recommend substantially more areas for wilderness and for national scenic area designation than the small increase in wilderness the Forest Service has suggested so far.

Thank you for serving the important function as the safekeepers of these forests, some of the last remaining natural wilderness areas in the eastern US.

Best regards,
John DesJardins

Planning.comments.form@ svinet2.fs.fed.us

04/22/2010 03:14 PM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject

Submitted by: Paula Baake
At: paula@dancingmindyoga.com
Remark: To the Forest Planning Team,

I am writing to you now to affirm my interest in the long term care, and protection of the GW National Forest. The GW Forest is provides the citizens of VA and WV with not only a recreational area with incredible views, of mountains, meddows and streams, but is also of extreme ecological importance for the safety of the potomac watershed. I expect the new plan drafted by this agency to take both of those interests in mind and protect the forest from deforestation, new roads, and most important forbid surface-occupying oil and gas drilling.

The following should also be considered:

· Plan for climate change by protecting core wilderness areas, reducing forest fragmentation and decreasing and eliminating non-climate stresses such as logging, road building and oil and gas leasing

· Identify all qualified roadless areas and protect all roadless areas, whether previously inventoried or recently identified, consistent with the provisions of the 2001 Roadless Rule

· Protect the Shenandoah Mountain Area for its unique ecological and recreational attributes by endorsing the proposal for a National Scenic Area on Shenandoah Mountain as described on the Friends of Shenandoah Mountain Website: http://www.friendsofshenandoahmountain.org/

· Protect all existing Old Growth forest

· Protect all watersheds especially those that directly supply drinking water

· Protect and buffer all “Special Biological Areas”

· Protect sufficient habitat for all endangered, threatened and rare species—especially the Wood Turtle, the Cow Knob Salamander, Cerulean Warbler, and Indiana Bat

· Recommend substantially more areas for wilderness and for national scenic area designation than the small increase in wilderness the Forest Service has suggested so far.

Respectfully,

Paula Baake
6404 Fairland Street
Alexandria, VA 22312

Planning.comments.form@svinet2.fs.fed.us

04/23/2010 09:05 AM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject

Submitted by: Barbara Neel
At: Barbara_Neel@apsva.us
Remark: Please don\'t do anything to harm the National Forests. We need them and the animals need them. They are fine as they are. They need protection, not development. Thank you.

Planning.comments.form@ svinet2.fs.fed.us

04/23/2010 09:25 AM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject

Submitted by: Maurla White
At: willwhite2@verizon.net
Remark: I\'m concerned that the National Forests be better protected against, logging (especially of old growth trees), additonal roads and other intrusions on the natural beauty, wildlife habitate, run-off and even the quality of our drinking water. I favor legislation which would preserve and even enhance the safety and beauty of this natural area.

I also encourage the developement of a Natural Scenic Area in Shendoah Mountains.

Thank you,
Maurla White

Planning.comments.form@ svinet2.fs.fed.us

04/23/2010 09:33 AM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject

Submitted by: Thomas Barrett
At: thomas.barrett@cox.net
Remark: Dear Planners -

Today there are many threats to the ecological integrity of the George Washington National Forest including road building, non-sustainable logging, off road vehicle use, and most notably, oil and gas development. In the past year we have seen a significant increase in proposals for energy development on the GW. The new emphasis on energy development in the forest poses a serious and substantial risk to our drinking water, the quality of our recreational opportunities, and the ecological integrity of the forest.

Please consider the following when drafting your plan for the GWNF:

1) Seriously consider the Forest Service's "More Remote Recreation and Habitat" alternative. Develop this alternative (and others) in a way that recognizes the ecological value of remote, intact areas. The areas recommended for wilderness and scenic area designations should reflect proposals made by wilderness advocates, mountain bikers, hikers, and other user groups.

2) Protect Shenandoah Mountain for its unique ecological and recreational attributes by endorsing the proposal for a National Scenic Area with pockets of Wilderness as described on the Friends of Shenandoah Mountain Website (www.friendsofshenandoahmountain.org). Recommend Wilderness for Laurel Fork and National Scenic Area for Kelly Mountain – Big Levels, as described in the proposal.

3) Recommend as Wilderness Beech Lick Knob and Three High Heads. Recommend Big Schloss as a National Scenic Area, and the Northern Massanutten Mountain area as a National Recreation Area.

4) Protect all areas identified in the Virginia's Mountain Treasures publication by designating them as unsuitable for timber harvest, new road building, and surface-occupying oil and gas drilling.

5) Identify all qualified roadless areas and protect all roadless areas, whether previously inventoried or recently identified, consistent with the provisions of the 2001 Roadless Area Rule.

6) Plan for climate change by protecting core wilderness areas, reducing forest fragmentation and decreasing and eliminating non-climate stresses such as logging, road building and oil and gas leasing.

7) Protect all existing old growth forest.

8) Protect all watersheds, especially those that directly supply drinking water.

9) Protect and buffer all Special Biological Areas.

10) Protect sufficient habitat for all endangered, threatened and rare species, especially the Wood Turtle, the Cow Knob Salamander, Cerulean

Warbler, and Indiana Bat.

Thank you very much for preserving nature the way it was given to us.

Planning.comments.form@ svinet2.fs.fed.us

04/23/2010 12:42 PM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject

Submitted by: Brian Gallagher
At: hbgallagher@yahoo.com
Remark: As a user of the GW & Jefferson Forests I am concerned about protecting the few remaining wilderness areas on the East Coast and threats to the forests. Please:

· Protect all areas identified in the Virginia ’s Mountain Treasures publication by designating them as unsuitable for timber harvest, new roadbuilding, and surface-occupying oil and gas drilling.

· Plan for climate change corridors by protecting core wilderness areas, Old Growth forest, protecting and buffering all “Special Biological Areas”, reducing forest fragmentation and decreasing and eliminating non-climate stresses such as logging, road building and oil and gas leasing.

· Identify all qualified roadless areas and protect all roadless areas, whether previously inventoried or recently identified, consistent with the provisions of the 2001 Roadless Rule.

· Protect all watersheds especially those that directly supply drinking water.

· Protect sufficient habitat for all endangered, threatened and rare species—especially the Wood Turtle, the Cow Knob Salamander, Cerulean Warbler, and Indiana Bat.

· Recommend substantially more areas for wilderness and for national scenic area designation than the small increase in wilderness the Forest Service has suggested so far.

Planning.comments.form@ svinet2.fs.fed.us

04/23/2010 03:10 PM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject

Submitted by: Alice Wang
At: awacct@hotmail.com
Remark: Hello,

I am submitting my comments online because I am unable to attend the forest planning meeting at Fairfax Government Center on 4/27.

Virginia’s George Washington National Forest is the largest National Forest in the eastern United States. A healthy George Washington National Forest is vital to the health of our state, our people and our environment. Therefore, I strongly urge Forest Service to:

- Protect the essence of the existing Old Growth forest (ie. keep healthy old trees even as under-growth is thinned to reduce fire hazard)
- Protect all watersheds especially those that directly or indirectly supply drinking water
- Protect core wilderness areas and reducing forest fragmentation
- Protect all areas identified in the Virginia’s Mountain Treasures publication by designating them as unsuitable for oil and gas drilling
- Protect and buffer all “Special Biological Areas”

Cheers,
Alice Wang

Planning.comments.form@ svinet2.fs.fed.us

04/24/2010 07:07 AM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject

Submitted by: Mary Ethel Kabisch
At: mek50@mail2hestia.com
Remark: Please protect all areas identified in the Virginia's Mountain Treasures publication by designating them as unsuitable for timber harvest,new roadbuilding, and surface-occupying oil and gas drilling.

Make plans for climate change by protecting core wilderness areas, reducing forest fragmentation and decreasing and eliminating non-climate stresses such as logging, road building and oil and gas leasing.

Identify all qualified roadless areas and protect all roadless areas, whether previously inventoried or recently identified, consistent with the provisions of the 2001 Roadless Rule.

Protect the Shenandoah Mountain Area for its unique ecological and recreational attributes by endorsing the proposal for a National Scenic Area on Shenandoah Mountain as described on the Friends of Shenandoah Mountain Website: http://www.friendsofshenandoahmountain.org/

Protect all existing Old Growth forest.

Protect all watersheds especially those that directly supply drinking water.

Protect and buffer all \"Special Biological Areas.\"

Protect sufficient habitat for all endangered, threatened and rare species—especially the Wood Turtle, the Cow Knob Salamander, Cerulean Warbler, and Indiana Bat.

Recommend substantially more areas for wilderness and for national scenic area designation than the small increase in wilderness the Forest Service has suggested so far.

Thank you for your time and attention.

Planning.comments.form@ svinet2.fs.fed.us

04/24/2010 11:55 AM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject

Submitted by: Margaret Kertess
At: mjk22207@yahoo.com
Remark: Thank you for welcoming comments on the plan revision for George Washington and Jefferson National Forests. As an Arlington, Virginia resident, my quality of life depends on the clean water and air and wilderness habitat provided by the forests. I urge you to consider the following for the plan revision:
Protection for all watersheds;
Elimination of stresses to the forest such as logging, road building, and especially oil and gas leasing--it is unacceptable to threaten our forests to contribute to climate change;
Protection for the Shenandoah Mountain Area by endorsing the proposal for a National Scenic Area on Shenandoah Mountain--this is a priceless recreational and ecological treasure which must not be destroyed by human interference;
Protection for all roadless and wilderness areas and expansion of areas designated as national scenic areas--once the wilderness is gone, we won\'t be able to get it back.
The Forest Service has an unmatched role in keeping our environment livable for all life forms--please do everything you can to protect and enhance the George Washington and Jefferson National Forests.

matthew hannan
<mhannan523@yahoo.com>

04/24/2010 03:40 PM

To comments-southern-georgewashington-jefferson@fs.fed.us
cc
bcc
Subject GW Forest Plan

Dear Ms. Hyzer,

In developing plans for the GW National Forest I do hope the following is taken into consideration.

- Prohibit any natural gas leasing or drilling within the 44 percent of the GW National Forest, a total of 425,874 acres, which contains watersheds for the five public reservoirs and eight rivers or creeks that provide public drinking water in the Shenandoah Valley.

- Impose a moratorium on natural gas leases elsewhere in the forest until the U.S. Environmental Protection Agency completes a national study on, and develops regulations governing, the water quality and public health impacts of Marcellus Shale natural gas drilling.

As a resident of Shenandoah County I would consider anything less a disaster for our community.

Sincerely,

Matthew Hannan

"David Scull" <davidscull@estatesllc.com >

04/26/2010 06:17 PM

To <comments-southern-georgewashington-jefferson@fs.fed.us>
cc
bcc
Subject Wilderness?

Dear USFS –

I oppose a Wilderness designation that would remove bikes from the beautiful trails in the Big Schloss/Tuscarora Trail area. I've biked and hiked there many times, and done trailwork throughout the GW Forest system.

Who does USFS expect will use these trails in the future?

Biking has replaced walking as the way young people get around in the outdoors (more efficient, more fun), and they're not likely to give that up.

Indeed, government spends heavily to persuade people to ride bikes, to reduce congestion and pollution, so it should be no surprise that many bikers will, when they have a choice, opt for a safe, beautiful trail over a dangerous road.

My wife & I came to mountain biking the same route as President Bush and Sen. Kerry -- knee problems caused by running, followed by discovery of how enjoyable mountain biking is (and how MUCH easier on knees!).

Our children & grandchildren all love the outdoors, and love to see it by bike.

Maryland's park trails are open to all users, and it seems to work just fine here.

'Wilderness' designation, originally intended to protect wild areas from commercialization, is too often used as a gimmick by hikers in an effort to grab exclusive use of public lands for themselves.

Please don't close this gorgeous federal land to the next generation of outdoorspeople.

Sincerely,

David Scull
Concerned Grandparent
7960 Old Georgetown Rd. #8C
Bethesda, MD 20814
301-913-9660

shane rauch
<shane_rauch@yahoo.com>

04/27/2010 06:32 AM

To comments-southern-georgewashington-jefferson@fs.fed.us
cc
bcc
Subject Wilderness Area in the Schloss

As a user of the national forest area of Schloss I would really appreciate leaving the Mountain biking trails open. I do not want to see it designated as wilderness. I very much enjoy the freedom of biking in the national forest and have always enjoyed it.
Shane

"Mark S. Weinman" <nalu4@comcast.net>

04/27/2010 07:31 AM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject Mountain bike access

I have ridden in the GW Forrest and this is an excellent resource for mid-atlantic trail riding. We are facing trail closure in many areas and we can't afford to loose more trails.
I am a member of IMBA and MORE. Please work with these groups to preserve mountain biking access.

Thank you.

Mark Weinman
Home office, Towson MD
nalu4@comcast.net

"larry camp"
<larry.camp@comcast.net>
04/27/2010 08:10 AM

To <comments-southern-georgewashington-jefferson@fs.fed.us>
cc
bcc
Subject GW comments

Ms. Hyzer,

Just wanted to let you know how much I appreciate trail cycling in the GW National Forest. My first exposure to mountain biking in the GW in 1989 changed my life. On that day I did a 5-hour ride with a group out of Winchester which included Sulfur Springs Gap Trail, Little Stony Creek, Cedar Creek Trail and others. I was, and remain, completely hooked on that euphoric feeling of being in a big forest, on rocky trails, with bikes and friends.

Favorite areas include all of the Fort Valley and the Wolf Gap/Big Schloss area. I've participated in dozens of trail work days with the mountain bike club MORE, the PATC, and the VA Happy Trails running club. I frequently lead group rides in the Massanutten and Big Schloss areas for out-of-state folks who've heard of our legendary terrain. The Massanutten Trail surrounding Ft. Valley has become a goal for many cyclists to complete the entire 71-mile loop. It's a supreme challenge, as of yet, not even professional mountain bike racers have completed the whole loop at one time, or even on overnight attempts. It's testament to the unique challenge of the Lee District.

I look forward to more, and increased opportunities and trails to ride. I would not like to see any cycling trails lost to Wilderness or to Wind development. As you probably know, there are other designations which offer protection of the resources for future generations that do not exclude bicycles. I encourage protection, but not Wilderness. I do not want any new Wilderness areas in the Lee District. I hope to introduce my son and his friends to the fun and challenge of the GW National Forest soon.

Thank you,
Larry Camp

Dave Roberts
<roberts628@gmail.com>
04/27/2010 08:20 AM

To comments-southern-georgewashington-jefferson@fs.fed.us
cc
bcc
Subject Maureen Hyzer, Forest Service

Maureen, I am a fellow mountain biker. I have been hiking in the Big Schloss area for many years now and have enjoyed everything that is has to offer. GW national forest is a great place for mountainbikers and I just wanted to say how much I enjoy riding there as well as hiking. As a member of MORE I am a veteran of trail work days and have always felt good about being able to give back to a cause I and many others enjoy so much! MORE and IMBA are some of the most environmentaly conciouse groups that I've ever been involved with. I'm proud to be a member of both and I hope that we will be able to enjoy the wildernes in GW forest on our bikes and that there won't be to many trail closings. Thanks.
-Dave Roberts

jswiggett@comcast.net
04/27/2010 09:38 AM

To comments-southern-georgewashington-jefferson@fs.fed.us
cc
bcc
Subject National Forest Plan

Dear Ms. Hyzer I have previously attended meetings to discuss the National Forest Use Plan and written letters to you in regards to the future use of the National Forest. As the deadline to finalize the National Forest Use Plan draws near I want to again convey to you that I am strongly opposed to the use of public land for wind trubine development and natural gas drilling. By now you have heard the many arguments against allowing these commercial energy projects on public land. The negative impacts are many and irreparable ranging from destroying habitat, killing of many bird and bat species, and contamination of ground water. Two recent articles in major newspapers, the Wall Street Journal and the Washington Post, point out that wind energy is no where near as efficient as orignally predicted producing only about 20% of projected capacity. The need for back up gernerators powered by gas and coal to produce electricity when the wind is not blowing has resulted in a zero reduction in the amount of carbon produced in areas that have allowed the development of wind energy projects. Our National Forests are a beautiful and pristine environment that should be preserved in its natural state for future generations. I strongly and respectfully encourage you to include language in the final version of the National Forest Use Plan that deems the use of public lands inappropriate for commercial gas and wind energy development and bans such projects from National Forest lands. Please preserve our beautiful national forests for my grandchildren and all future generations to enjoy and do not allow them to be destroyed by commercial energy development. Thank you.

Respectfully

James W. Swiggett

Michael Lebenkoff
<rastaterp@hotmail.com>
04/27/2010 10:18 AM

To <comments-southern-georgewashington-jefferson@fs.fed.us>
cc
bcc
Subject Wilderness Designation in GWNF

Please, please, please do not proceed with the plan to designate additional areas of GWNF as protected wilderness. Mountain Bikers and other trail users need this area. Those of us that live/work in the DC area need a place like GWNF, just a few hours drive away, to escape the masses that we are surrounded by on a day to day basis.

Mountain Bikers are typically at the fore-front of trail maintenance. Volunteering our time to keep trails sustainable comes with the territory, please do not reduce the amount of actual physical territory Mountain Bikers have to enjoy their sport. I strongly oppose closing trails to Mountain Bikers, especially if they are to remain open to hikers and equestrians. If trails are to be closed they are to be closed to everyone, but really what benefit is there to closing trails at all? We pay taxes and enjoy the benefits of highways, public schools, police/fire/emergency crews, etc... being able to enjoy National Forest trails is equally as important to me as many of the other benefits I receive as a loyal, tax-paying, American Citizen.

Thank you for your consideration.

EMAILING FOR THE GREATER GOOD
Join me

"BOL" <bol@pa.net>
04/27/2010 10:40 AM

To <comments-southern-georgewashington-jefferson@fs.fed.us>
cc
bcc
Subject GWNF/Potential Wilderness

Dear Ms. Hyzer;

As an avid mountain biker, I have traveled to many states in the U.S. for vacations and recreation. I have ridden many trails in the GWNF in the past and look forward to making many more trips to explore more of the GWNF. Mountain biking provides healthy activity while enjoying the beauty of our forests with little to no impact. It also brings revenue to the area as a tourist/recreation destination.
I am in favor of protecting all of our natural resources through means that don't exclude bikes from the use of trails. Please consider making the designations something less than WILDERNESS so that myself and future generations don't loose this area. Thank you.

Sincerely,
Ray Egolf
P.O. Box 124
Landisburg PA 17040

ian spivack
<gte534j@gmail.com>
04/27/2010 11:01 AM

To comments-southern-georgewashington-jefferson@fs.fed.us
cc
bcc
Subject Preserve Mountain Biking In The George Washington National Forest

Hi,
I am writing a comment to "Preserve Mountain Biking In The George Washington National Forest". I frequently ride my mountain bike in the George Washington National Forest and in the Big Schloss area and believe that those areas should be kept open to mountain bike use. I also participate in many bike races in those areas and camp there as well. My family really enjoys visiting the parks and riding their bikes there as well. Please make sure that this land is available for mountain bike usage.

Thanks,
Ian Spivack
9900 Longford Ct
Vienna, VA 22181
703-200-4519

Susan Haywood
<suzehaywood@yahoo.com>

04/27/2010 11:48 AM

To comments-southern-georgewashington-jefferson@fs.fed.us
cc
bcc
Subject Big Schloss

Dear National Forest Service,

I love riding my bike in the Big Schloss area. Big Schloss has one of the most beautiful views in the area. I enjoy riding my bike up to the overlook and taking in the natural beauty and unique geology of the area.

It would be unacceptable to me to lose that opportunity due to making Big Schloss into a Wilderness area. I don't want any more trails closed to mountain bikes. I want to continue to enjoy my wild experience without the federal designation of wilderness that bans mountain bikes.

I support multi user access and education about environmentally sound and socially responsible mountain biking. I also do trail work in the George Washington Forest that supports the trails and helps ease the burden of the forest service to maintain trails.

I support a paradigm shift that allows mountain biking to be concurrent with environmental protection and stewardship of our national forest lands.

Please vote no for Wilderness designation of Big Schloss.

Thank You,

Susan Haywood
150 S. Dogwood Drive
Harrisonburg, VA
22801

Russ.Adams@faa.gov
04/27/2010 01:51 PM

To comments-southern-georgewashington-jefferson@fs.fed.us
cc
bcc
Subject Wilderness Areas

Please do not create any more Wilderness areas in the George Washington National Forest . The designation "Wilderness Area" is too stringent and restricts activities that have a useful purpose, and provide recreational opportunities. I ride a bicycle on back-country trails often and rarely see other users. Please don't take this away from me.

I love my National Forest and thoroughly enjoy riding my mountain bike on its many trail systems.

Please consider creating a new designation that would allow for the use of mountain bikes while preserving the wilderness experience.

Thank You!

Russ Adams
Support Specialist
Washington District
Washington Tower
703-413-0346

Planning.comments.form@ svinet2.fs.fed.us

04/27/2010 02:30 PM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject

Submitted by: kathy jackson
At: kajackson@fcps.edu
Remark: I believe that it is vitally important to totally preserve the George Washington Forest, both in Virginia and in West Virginia.

"SwanneeASR" <swannee@richmondasr.com>

04/27/2010 05:07 PM

Please respond to <swannee@richmondasr.com>

To <comments-southern-georgewashington-jefferson@fs.fed.us>

cc

bcc

Subject National Parks Comment - Mountain Biker/Trail Worker

Dear Ms. Hyzer,

I wanted to drop a quick note in order to let you know how important it will be to keeping the trails open to mountain biking in the George Washington & Thomas Jefferson National Forests.

I am a Virginia resident and very much enjoy biking on those trails into the deeps of the wilderness. On a bike, quiet and VERY low impact, it is possible to see and experience the beauties of the forest that is so rarely seen by most residents. In fact, we – as mountain bikers – love the trails so much, we give many hours every year to be sure the trails are maintained for ALL to use.

To cut off trail use to mountain bikers would be to cut a large population off from the trails but also a great resource for the National Forest staff.

PLEASE – HELP US KEEP OUR ACCESS TO THESE BEAUTIFUL TRAILS – THANK YOU!

Bill Swann

President/Manager

TEAM Richmond ASR

swanneext@verizon.net

804.267.3388

www.richmondasr.com

Ride like a Jedi...

feel the force (of the trail)

flow through you...Master Yoda

(cr. "a long time ago - in a galaxy far, far away)

"Parker Perkins"
<goduck@nc.rr.com>
04/27/2010 08:42 PM

To <comments-southern-georgewashington-jefferson@fs.fed.us>
cc
bcc
Subject GW Forest Mountain biking

To whom it may concern,

Please keep the GW forest open to mountain biking. I attended college near that area and used to ride there. Please keep it open.

Thank you

Parker Perkins

CGDeck@aol.com
04/28/2010 07:25 PM

To comments-southern-georgewashington-jefferson@fs.fed.us
cc
bcc
Subject Keep Moutain Biking in Big Schloss

Dear Ms. Hyzer;

I'm writing you to ensure you hear support to continue mountain biking access in the Big Schloss area. I'm a federal officer, assistant Boy Scout master, and volunteer that improves trails in Virginia. It is rare that I don't take time during a ride to improve trails in Virginia. I also encourage such volunteer projects in my Boy Scout troop. Please keep the trails open for mountain bikers in GW. We ride in the GW, and do trail maintenance there as well.

Thank You;
Carl Deckert
6912 Spelman Drive
Springfield, VA 22153

"Miguelperez" <miguelperez@miguelaperez.com>

04/28/2010 10:20 PM

To <comments-southern-georgewashington-jefferson@fs.fed.us>

cc

bcc

Subject Mountain biking in the GW national Forest

Hello

I would like to let you know that I like biking in the GW national forest area and I would like to retain that privilege. I am a responsible rider, who does not disturb wildlife, stays in stablished trails and leaves no trace. As such I hope that the area will not be so protected as to avoid this activity.

Remember, if the public does not have access to it, if the public does not see it and use it, then the public will not protect it.

Miguel A. Perez

Thanks

Planning.comments.form@svinet2.fs.fed.us

04/29/2010 09:55 PM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject

History: This message has been replied to.

Submitted by: James Burris
At: james26b@hotmail.com
Remark: I attended the plan revison meeting at the Verona government center and did not get a chance to speak in our group. The topics in our group were more about forest ecology and evironmental topics that I really do not know much about. I did want to contact and give input though.

I am an avid mountain biker and enjoy GWNF for its wonderful trails that give a challenging backcounty experience. I would like to see more trail connections withmore diverse trails in the \"new\" GWNF. I love the wonderful rocky advanced type stuff but a countour beginner trail here and there would be great. I am currently sending people long distances to ride beginner level mountain bike trails.

Planning.comments.form@ svinet2.fs.fed.us

04/30/2010 06:19 AM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject

Submitted by: Este Fisher
At: bluedogs@ntelos.net
Remark: 1.Better wildlife habitat management, early concession plants,ie. blueberry huckleberry ,better oak,hickory,cherry management, harvesting,new growth.

2.Multi-use user fees such as the Northwest Forests have.

3.Open gated roads for all hunters on the second Saturday in August until late February as weather and road conditions warrant

"Hammond, F Marshall" <marshall_hammond@merck.com>

04/30/2010 08:03 AM

To <comments-southern-georgewashington-jefferson@fs.fed.us.>
cc "Hammond, F Marshall" <marshall_hammond@merck.com>
bcc
Subject George Washington Forest Plan Revision

- No net loss of trails, and that the Forest Service increase total trail mileage by over 200 miles to meet bicyclists recommendations below:
    - Increase novice and beginner-oriented trails on the edge of the forest to provide positive, front country trail experiences.
    - Develop or re-locate parking areas on the edge of the forest which has the effect of reducing vehicle traffic, shortening the travel time to the forest and reducing pollution.
    - Create stacked loop trail systems which offer varying levels of difficulty.
    - Locate primary trailheads on two lane state roads to facilitate access for visitors and volunteers, while reducing USFS road maintenance costs.
    - Increase shared-use loop trail opportunities.
    - Create new trail connectors to link existing trails to form loops (Narrowback to Wolf and Timber Ridge for example).
- Support the Friends of Shenandoah Mountain agreement.
    - Increase protection for the area between US 250 and US 33, east of Shenandoah mountain with the aim of preserving its backcountry aspects while allowing shared use trail recreation.
    - Adjust the Ramseys Draft Wilderness Area Boundary to allow bike access on the entire Shenandoah Mountain Trail.
- Support backcountry areas, especially the 12D designation for "remote backcountry, non-motorized recreation, which allows for mechanized management (chainsaws and new non-motorized trails are allowed)".
- Manage all Inventoried Roadless Areas (IRAs) under the 2001 Roadless Rule.
- Increase funding for recreational trails to reflect their benefit to the local economies.
- Adopt Great Eastern Trail (GET) corridor as a shared-use trunk trail that connects the western GWNF ranger districts.
- Provide viewshed protection for National Recreation Trails (NRTs) in GWNF. Example: Wild Oak Trail
- When conducting Fire Management Operations, please restore to previous or desired condition (with Fire Management funds) any recreation facilities, including trails, damaged during fire management ops.
- Close roads seasonally during wet seasons or during the freeze/thaw cycle to reduce road maintenance costs.
- Follow sustainable design principals for all new trails and roads. These include following contour alignments, average grades under 10%, and

frequent grade reversals.

- Partner with volunteers for trail management by assisting with chainsaw certification and continuing and adopting new volunteer agreement

Thank you for your consideration on these items.

Marshall Hammond
1221 Old Windmill Cir.
AptA
Harrisonburg, VA 22802

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New Jersey, USA 08889), and/or its affiliates Direct contact information
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your system.

"Larry Camp" <larry@franklingeoventures.com>

04/30/2010 12:00 PM

To <comments-southern-georgewashington-jefferson@fs.fed.us>
cc
bcc
Subject Comment on George Washington Plan Revision

Dear Ms. Hyzer and all GW/Jeff Planners,
Thanks for allowing public comments on the Revision.
I've been using the Lee District GWNF since 1989, and it remains one of my favorite places for trails, views, rocks, and an overall sense of adventure and solitude. I particularly enjoy the trails along the ridges of Massanutten East and West, as well as the Wolf Gap/Big Schloss area. Usually, I'm on a bicycle, other times on foot, and sometimes, carrying trail tools working with various groups (bikers, hikers, runners, equestrians).

I hope to see an increase of purpose-built recreational trails for all user groups. Many of the GWNF trails were originally settler's trails, quarry roads, extraction routes, carriage roads etc. Trails (roads) in those days were meant to be as short and straight as possible. E.g., get to the resource quickly, get it out quickly. By contrast, recreational users want trails as long and twisty as possible, taking in all the scenery, overlooks, plant communities, old growth, waterfalls etc. Recreational trails are a lot different than extraction trails. I hope to see an increase in the amount of stacked-loop recreational trail networks located along state-maintained roads such as Fort Valley Road (Route 678) and Wolf Gap Road (Route 675). I think it's a good idea to cluster the trailheads along the perimeters of the Forest, closer to the towns. There should be trails for all, including families, kids, and novices. Stacked-loop networks create shorter, easier trails close to the trailhead, with connections leading out to the longer more difficult trails. I would like to see the GW/Jeff become a national leader in this type of trail system, and I look forward to working with trail clubs to help make it happen.

I do not support increasing any Wilderness areas in the GW/Jeff, and instead support other designations that allow for mechanized bicycles, and motorized tools for maintenance, while still preserving the valuable Forest resource.

I am a proponent of community-scale wind development and support it in my own community (Yes in my back yard). I do not at all support utility-scale wind development anywhere on public lands.

Thank you for reading,
Larry Camp
Franklin GeoVentures

Planning.comments.form@ svinet2.fs.fed.us

04/30/2010 04:18 PM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject

Submitted by: Roy Barrett
At: roydbarrett@aol.com
Remark: Please do not close any more trails. There are already to few trails open at this time and closing more will be a great lose for everyone who uses these trails.

Thank you,

Roy

Planning.comments.form@ svinet2.fs.fed.us

04/30/2010 05:10 PM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject

Submitted by: Paul M. Provencher
At: ppro@4x4icon.com
Remark: Please do not close any Forest Roads or trails in the GWNF. Our family has a long standing tradition of retreating to the forest in our Jeep for rest and relaxation away from the noise of the city. We stay at Brandywine Campground and explore the forest during the day.

The forest is there for our use and enjoyment. We would be happy to pay an annual access fee to help with the cost of enforcement. This would enable the region to manage access like ours and keep those who are destructive from being a problem.

Planning.comments.form@ svinet2.fs.fed.us

04/30/2010 07:40 PM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject

Submitted by: Steve Johnson
At: xtremesj@aol.com
Remark: I am hoping that the new forest plan will include more access to off-road type activities. I will be at Tasker\'s Gap this weekend riding my ATV and look forward to you adding more trails like these.
Thanks,
Steve Johnson
7325 Chapel Heights Rd.
Fredericksburg, VA 22407

Planning.comments.form@ svinet2.fs.fed.us

04/30/2010 10:35 PM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject

Submitted by: Brian Phillips
At: wvbubba@yahoo.com
Remark: I ask that you please consider AVOIDING ANY CLOSURE of the recreation areas contained within the GWNF. Responsible off-roaders like my family get an ENOURMOUS amount of enjoyment from the area and it would be sad to loose access to such a wonderful resource in my own back yard.

Sincerely,

Brian Phillips
25 Pinnell St
Buckhannon, WV 26201

Cdhuppuch@aol.com
05/01/2010 12:50 PM

To comments-southern-georgewashington-jefferson@fs.fed.us
cc
bcc
Subject GW Revised Forest Plan

Here are some of the issues the GW must consider along with those presented in the earlier plan.
ISSUE # 1 - Forest Health- The GW has large areas of mature and over mature stands. There is an imbalance of age classes, especially younger. The forest is vulnerable to serious insect, disease and loss of habitat variety.More emphasis must be done to provide for timber harvest in planned sequence for size and distribution. Some lands that are productive and manageable should be added to the base that were missed in the last plan. Some stands should be made eligible for timber production from roadless areas that were inventoried in error.

ISSUE #2 - The Forest Lacks Good Communication with Neighbors and User Groups --The Forest lacks the closeness it once experienced working with local governments, business, and organized group that use the forest or should have interest in the forest values. This has created a disconnect from the pubic understanding the value and problems of the Forest and what work is being preformed that benefits the public. (The Forest Web Site is important but most of the public does not read) This disconnect has been noted and exacerbated by the consolidation of forests and districts. But, it also varies by districts depending upon the interest of the district's personnel and their active participation in their community. There needs to be a continuing program to bring information the public through the media about the value of the forest and work being preformed for the public.

ISSUE # 3 --The GW needs to cooperate and show leadership in environmental education of youth and the general public.
The Forest does not have the resources to sponsor environmental programs as it once did. It has the opportunity to cooperate with environmental organizations that provide youth and adult education.
Example-- The Forest was a full cooperator with the Va. Wildlife Center during the beginning years. This faded to no interest or maintenance to date. The Center provides the personnel and program for school groups. The Forest could provide at least limited support and encouragement. More Kids In The Woods is a good start but it does not always take FS funds.
Augusta Springs is a better example of cooperation. It once provided an experience employee to help the Soil and Water District run an educational program. The Forest does provide good maintenance but little emphasis in the education.
Thanks for the opportunity to provide some of these issues. I have strong concerns about the management of the GW and want to see it stay as a Multiple Use forest directed by law.
Charlie Huppuch

Planning.comments.form@ svinet2.fs.fed.us

05/01/2010 03:16 PM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject

Submitted by: Stuart Fargiano
At: stusjeep@aol.com
Remark: Please keep the beautiful forest open for both motorized and nonmotorized use. My wife and I do everything from horseback ride to Jeep through the forest. Don\'t eliminate multi-use trails.

Planning.comments.form@ svinet2.fs.fed.us

05/01/2010 08:32 PM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject

Submitted by: Doyle K Stewart
At: DKStewart@stewartworks.com
Remark: I regularly travel to the George Washington & Jefferson National Forests where I can escape the stress and hectic pace of the Washington DC area. please do not close any more roads or trails in these forests.

v/r
DK Stewart

Planning.comments.form@ svinet2.fs.fed.us

05/02/2010 12:14 AM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject

Submitted by: Barbara Horne
At: labtech4you@verizon.net
Remark: I live off route 60 in richmond and would like to know how to get to Shoe Creek the Jeeping trail, could you please email me and let me know the directions. Or you may call me 804-525-0575

Planning.comments.form@ svinet2.fs.fed.us

05/02/2010 06:38 AM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject

Submitted by: Steve and Sara Godshall
At: stevesaragodshall@comcast.net
Remark: We urge you to not allow drilling for natural gas in the GWNF. It is far too unknown and risky for the environment at worst, and at best is destructive to habitat and public use by noise, air and water pollution, and heavy vehicles on new roads. Please do not lease public land for drilling.

We also ask you to support the proposal in support of the Shenandoah Mountain protection. We would love to see that area wild.

Thank you.

Sara and Steve Godshall

Contact GpsTrailSource <gpstrailsource@gmail.com>

05/02/2010 08:12 AM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject Continued mountain bike access in GWNF Big Schloss Area

Maureen Hyzer, Forest Service

I am writing in support of continued access to trails for mountain biker in the GWNF in the Big Schloss area. I frequently access the trails of GWNF on my mountain bike and enjoy the beauty of the remote terrain. I attend the many local and regional events associated with mountain biking and spend many hours each year riding in GWNF Big Schloss area. Please continue access for mountain biking within GWNF!!! Thank you for your time and consideration.

Dave & Chris Hook
GpsTrailSource.com

Planning.comments.form@ svinet2.fs.fed.us

05/02/2010 05:52 PM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject

Submitted by: Donna Reedal
At: drreedal@msn.com
Remark: Please discontinue the closure of roads within GWNF. The roads get my family to places where we can enjoy nature without a huge expense.

Planning.comments.form@ svinet2.fs.fed.us

05/03/2010 06:54 AM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject

Submitted by: Keith Fromme
At: spdmpo@yahoo.com
Remark: Please leave the public trails open to the public. There are a lot of groups that conduct trail clean ups and trail maintenence. I do not want any trails closed but if some must be for rehabilitation purposes then at least leave the others open.

"Bolgiano, Christina"
<bolgiace@jmu.edu>
05/03/2010 12:24 PM

To "comments-southern-georgewashington-jefferson@fs.fed.us"
cc <comments-southern-georgewashington-jefferson@fs.f
bcc
Subject Plan Comments

10375 Genoa Road
Fulks Run, VA 22830
bolgiace@jmu.edu
May 3, 2010
Ms. Maureen Hyzer, Forest Supervisor
George Washington National Forest
5162 Valleypointe Parkway
Roanoke, VA 24019-3050
Email address: comments-southern-georgewashington-jefferson@fs.fed.us.
Dear Ms. Hyzer:
Please consider this a formal response to the current revision process of the George Washington National Forest Land Use Plan. As a hiker, camper, and mountain biker, as well as a clean-air breathing, clean-water drinking Shenandoah Valley resident, I believe that the highest values of the GWNF lie in its ecological services to the millions of people who live within a few hours drive of it. These services include not only clean air and water, game and nongame habitat for native biodiversity crowded out of more developed landscapes, and scenic recreational opportunities that support a lucrative tourism, hunting and fishing industry, but also carbon sequestration in mature forests. The GWNF Plan should emphasize protecting these values above all extractive products because private lands can supply extractive products; only the GWNF can supply the quantities of clean water, air, wildlife habitat and recreational opportunities needed in the Mid-Atlantic region.
Specifically, I feel the Plan should address the following issues:

- Manage **Terrestrial Plants and Animals and Their Associated Habitats** in an ecosystem manner, letting natural processes work without disturbance except in cases where serious erosion is occurring, invasive pests are threatening, or human safety or habitations are endangered. Early successional habitat is supplied in plenty by private lands surrounding the GWNF. The Plan should aim for a mature, native forest allowed to establish its own patch-dynamics disturbance regime as fully as possible. Old growth should be allowed to develop everywhere as a natural part of the forest and as a carbon sequestration strategy against global warming.
- **Fire Management:** The use of low level prescribed fire can be helpful when planned as part of ecosystem management, but the huge acreages various districts have undertaken to burn, and the extreme rapidity of the rotation, cannot be justified by historical or environmental evidence. Prescribed fire should be small-scale and not repeated more than every decade or so, to allow small vulnerable hardwood saplings to establish bark thick enough to withstand the next round of fire. Smoke management must be a major consideration given the often relatively dense concentrations of human residences around the GWNF, and LOCAL COMMUNITIES SHOULD BE NOTIFIED

OF PLANNED FIRES.

- **Riparian Area Management, Water Quality and Aquatic Habitats:** It is documented that surface waters running through nearly half of the GWNF land provide drinking water for twenty-two localities and more than 260,000 residents of western Virginia. Protecting all creeks from headwaters to where the creeks exit GWNF land should be one of the Plan's highest priorities, and identifying and describing all watershed areas within the GWNF should be part of the Plan.
    - Specifically, the Plan should **BAN GAS HYDROFRACKING** everywhere in the Forest because 1) the danger to water quality is extremely high, as demonstrated by the experiences of many fracked communities in NY, PA, CO, TX and elsewhere, and 2) there is plenty of private land available for fracking.
    - The Plan should also continue to **BAN INDUSTRIAL WIND TURBINES** everywhere in the Forest because, in part, the necessary roads, blasting and bulldozing result in stream sedimentation. Thank you for denying the FreedomWorks proposal (mostly in the Lee Dist.) in 2009. The same reasons for denying that proposal – plenty of private ridgetops available, industrialized land use doesn't fit the mission of the forest, and threats to wildlife, especially bats under siege by White-Nosed Syndrome – apply throughout the GWNF. In addition, destroying GWNF ridgetops removes the possibility of ridgetop refuges for species moving higher in elevation to escape effects of climate change.
    - The Plan should close roads in the GWNF system that are not being maintained, should ban any future use of ATVs with their heavy road impacts, and should restore damaged roads that are considered too important to remove from the road system, including culverts that allow fish passage.
- **Recommend more land for Wilderness Designation**: All the tracts identified in the 2009 **VA Mountain Treasures** book should be recommended. Specifically, I'm familiar with the Beech Lick Knob (Marshall Run) and Hog Pen Mountain areas from many hikes there with friends, and I know they both have values that qualify them for Wilderness.

- **Protection and Restoration of Native Biodiversity:** Threatened, Endangered, and Sensitive/Locally Rare Species should receive the highest levels of protection possible, and should be restored to or maintained at viable population levels as soon as environmentally and economically feasible. Non-native invasive species should be removed as fully as possible but more important, the disturbed conditions which attract them in the first place should be avoided. Ecosystem resiliency relies on a full complement of biodiversity native to each forest type, and can help to insure ecosystem stability in the face of a changing climate and changing social and political demands.

- **Wood Products**: More firewood should be made available for purchase to local communities through more Timber Stand Improvement/Crop Tree Thinning projects throughout the Forest, and this should be done INSTEAD of selling forest biomass for commercial energy production. I believe that energy independence is better served through small scale individual firewood harvests by local vendors. I am aware of

unfulfilled demand for firewood at least in the North River District. Some level of wildfire fuel reduction will also result from increased TSI. TSI projects and timber cutting should occur only where logging and regeneration have occurred within the last 50 years; not in areas that have remained relatively undisturbed during the last half century.

- **Recreational opportunities**: The Plan should support possibilities for more remote hiking, backpacking and camping experiences. In particular, the Plan should support the Great Eastern Trail as an alternative to the Appalachian Trail that allows mtn. biking and horseback riding in addition to hiking.

Thank you for the opportunity to comment.
Sincerely,
Chris Bolgiano

Chris Bolgiano, Mildly Amusing Nature Writer: www.chrisbolgiano.com
10375 Genoa Road, Fulks Run, VA 22830
540-896-4407

Ryan Morrison
<ryan.andrew.morrison@gmail.com>

05/03/2010 12:34 PM

Please respond to ryan.andrew.morrison@gmail.com

To comments-southern-georgewashington-jefferson@fs.fed.us
cc
bcc
Subject Comment on George Washington Plan Revision

Thank you for the opportunity to comment on the George Washington and Jefferson National Forests regarding the management of off-highway vehicles (OHV). I urge the U.S. Forest Service (USFS) to ensure that responsible motorized access is not restricted.

As an OHV enthusiast, I am very concerned about the potential impact this rulemaking may have on responsible motorized recreation opportunities on land managed by the USFS.

One concern is a potential Wilderness designation. A Wilderness designation will close off motorized access to all forest service roads and roadless areas. This may affect the Shenandoah 500, which is a two-day dual sport ride held mostly in the George Washington and Jefferson National Forests on existing roads and trails.

Recreation plays a role in addressing many of the issues raised by our current economic and social condition. It provides sustainable employment, economic growth, and has a positive effect on other administration-stated goals, such as addressing childhood obesity.

It is incumbent on the agency to fulfill its multiple use mandate as outlined in the Multiple-Use Sustainable Yield Act of 1960. The forest planning process should not be used to promote the management of additional public land for non-use. Rather, it should promote good management for sustainable multiple uses. Specifically, planners should seek to preserve and restore recreational access to our forests in the planning process.

The planning process should plan for the inclusion of responsible motorized recreation opportunities where appropriate and the use of established techniques for trail design, construction and maintenance.

Thank you for your time and consideration of my request.

Ryan Morrison
Legislative Officer
Northern Virginia Trail Riders

Michael Vanderbilt
<mike@thevanderbilts.com>

05/03/2010 12:57 PM

To comments-southern-georgewashington-jefferson@fs.fed.us
cc
bcc
Subject George Washington and Jefferson National Forest OHV Access

Thank you for the opportunity to comment on the George Washington and Jefferson National Forests regarding the management of off-highway vehicles (OHV). I urge the U.S. Forest Service (USFS) to ensure that responsible motorized access is not restricted.

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The planning process should plan for the inclusion of responsible motorized recreation opportunities where appropriate and the use of established techniques for trail design, construction and maintenance.

Thank you for your time and consideration of my request.

Michael Vanderbilt
5455 Calvin Ct
Springfield, VA 22151

Karen B Overcash/R8/USDAFS

05/04/2010 01:59 PM

To comments-southern-georgewashington-jefferson@FSNOTES

cc

bcc

Subject Fw: George Washington and Jefferson National Forest preservation - comment on March 25, 2010 Update

Karen Overcash
USDA Forest Service
Land Management Planning
George Washington & Jefferson NFs
5162 Valleypointe Parkway
Roanoke, VA 24019
540-265-5175 Fax 540-265-5145
kovercash@fs.fed.us

GO VA TECH!

----- Forwarded by Karen B Overcash/R8/USDAFS on 05/04/2010 01:59 PM -----

Kenneth Landgraf/R8/USDAFS
05/04/2010 01:53 PM

To Karen B Overcash/R8/USDAFS@FSNOTES
cc
Subject Fw: George Washington and Jefferson National Forest preservation - comment on March 25, 2010 Update

Ken Landgraf
Planning & Forest Ecology Group Staff Officer
George Washington and Jefferson National Forests
(540) 265-5170
e-mail: klandgraf@fs.fed.us
----- Forwarded by Kenneth Landgraf/R8/USDAFS on 05/04/2010 01:53 PM -----

"McMullan, Grice" <cgmcmullan@t-mlaw.com >
04/30/2010 08:54 AM

To "klandgraf@fs.fed.us" <klandgraf@fs.fed.us>
cc "mhizer@fs.fed.us" <mhizer@fs.fed.us>
Subject George Washington and Jefferson National Forest preservation - comment on March 25, 2010 Update

Dear Mr. Landgraf:

First, after just reading the March 25, 2010 Update on the George Washington Forest Plan Revision and other documents referred to in that Update, I want to thank you for the hard work in what you and your staff are doing as to planning for Virginia's National Forests.

I should tell you I am a lawyer, and with whatever time that is left from my work or meeting family obligations, my primary hobby is to hunt upland game birds with my two English setters. And since I love the sport, foremost in my mind is to always think in terms of preserving both the game that is being hunted and the habitat that enables them to produce their young.

Regrettably and for many reasons such as over-development and oftentimes mismanagement, there remain few if any wild quail in Virginia, so that leaves a last significant resource for upland game hunters such as me, which is to hunt grouse and woodcock. And, of course, it is the welfare of grouse and woodcock that is the reason why I am sending you this email, since the Forest Service is the entity primarily responsible for managing the great recreational resources in Virginia that are the George Washington and Jefferson National Forests, which are the largest accessible tracts of unspoiled land in Virginia.

I realize that there are many demands for what ought to be done with regards to the resources you plan and manage, but I would sincerely hope that you will consider the need to carefully plan within the wonderful land that is your responsibility for systematic management that would help maintain and grow the grouse and woodcock populations. As you know far better than I do, our National Forests are the ideal place to have the old and new stands of forest as well as open spaces that are so necessary to assist upland game.

Thank you for your attention to this letter. And to the extent that I can assist your efforts in any way, please email or call me. I am a very big fan of what you do and realize the many challenges that you face.

Grice McMullan

C. Grice McMullan, Jr.
ThompsonMcMullan, P.C.
100 Shockoe Slip
Richmond, VA 23219
804-698-6203
804-780-1813 fax
cgmcmullan@t-mlaw.com

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MERITAS LAW FIRMS WORLDWIDE

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Karl Fauss
<karlfauss@yahoo.com>
05/03/2010 01:55 PM

To comments-southern-georgewashington-jefferson@fs.fed.us
cc
bcc
Subject Comment on George Washington Plan Revision

Thank you for the opportunity to comment on the George Washington and Jefferson National Forests regarding the management of off-highway vehicles (OHV). I urge the U.S. Forest Service (USFS) to ensure that responsible motorized access is not restricted.

As an OHV enthusiast, I am very concerned about the potential impact this rulemaking may have on responsible motorized recreation opportunities on land managed by the USFS.

One concern is a potential Wilderness designation. A Wilderness designation will close off motorized access to all forest service roads and roadless areas. This may affect the Shenandoah 500, which is two-day enduro held mostly in the George Washington and Jefferson National Forests.

Recreation plays a role in addressing many of the issues raised by our current economic and social condition. It provides sustainable employment, economic growth, and has a positive affect on other administration- stated goals, such as addressing childhood obesity.

It is incumbent on the agency to fulfill its multiple use mandate as outlined in the Multiple-Use Sustainable Yield Act of 1960. The forest planning process should not be used to promote the management of additional public land for non-use. Rather, it should promote good management for sustainable multiple uses. Specifically, planners should seek to preserve and restore recreational access to our forests in the planning process.

The planning process should plan for the inclusion of responsible motorized recreation opportunities where appropriate and the use of established techniques for trail design, construction and maintenance.

Thank you for your time and consideration of my request.

Karl Fauss
5856 Brian Dr.
Bethel Park, PA. 15102

703-405-7206

Enduro
<crf450x@yahoo.com>
05/03/2010 03:54 PM

To comments-southern-georgewashington-jefferson@fs.fed.us
cc
bcc
Subject Comment on George Washington Plan Revision

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The planning process should plan for the inclusion of responsible motorized recreation opportunities where appropriate and the use of established techniques for trail design, construction and maintenance.

Thank you for your time and consideration of my request.

Mark Galusha

"Mair J. Devoursney" <mjd2m@cms.mail.virginia.edu>

05/03/2010 04:35 PM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject Comment on George Washington Plan Revision

Subj: Comment on George Washington Plan Revision

The George Washington Nation Forest (GWNF), as with the other great national forests in the US, is a vital complement to other natural areas in this country in providing supportive habitats for bird and other wildlife. The national forests have a unique role in protecting these habitats. Noting the changes in wildlife that have taken place over the decades in the GWNF underscores the importance of taking a long-term view of the public policy decisions the Forest Service takes now. It is perhaps too easy to postpone the tough decisions that protect our wildlife and wilderness heritage

The preservation of wilderness areas almost inevitably means enhancing protections from interest groups with relatively short-term interests: the logging companies that want more roads, the oil and gas leasing interest groups with boundless demands for new sources of energy, and recreational off-road vehicle use which lays bare and disturbs precious wildlife habitats.

With less than 5% of the GW National Forest designated as "wilderness area" more emphasis should be placed on the long-term viability of natural ecosystems to protect these disappearing wild life areas. Most of the other national forests in the US protect considerably greater tracts of wilderness areas. To that end we should designate as Special Biological Areas all sites identified by the Virginia Division of Natural Heritage as biologically significant, protect and buffer all Special Biological Areas, support all existing old growth forests, and protect those area identified in the Virginia's Mountain Treasures publication by designating them as unsuitable for timber harvest, new road building, and oil and gas drilling.

Other long-term considerations should involve measures that protect drinking watersheds and include consideration of climate change through protecting core wilderness areas. While we can disagree over the merits of arguments for and against climate change, it seems prudent to "hedge our bets" in adopting policies that protect these areas and in so doing allow our grandchildren the possibility of enjoying the benefits of these mountain areas that so many take for granted.

Thank you for your consideration.

Mair de Voursney

Hufford1913@aol.com
05/03/2010 04:49 PM

To comments-southern-georgewashington-jefferson@fs.fed.us
cc avinash@magnumproducing.com, hufford1913@aol.com, tkcollins@fs.fed.us
bcc
Subject GW Plan Revision

To whom it may concern:
With regard to the Notice published in the Federal Register on March 10, 2010 concerning the Revision of Land Management Plan for the George Washington National Forest in VA and WV, I wish to encourage the implementation of the proposed land and resource management plan for the George Washington National Forest to coincide with the present plan in effect for the Jefferson National Forest that was implemented and approved on January 15, 2004.
Sincerely,
I. Meade Hufford
Certified Professional Landman

I. Meade Hufford, CPL
Energy Land Services
P. O. Box 302 - 144 Wharton Grove Rd
Weems, VA 22576
Phone: 804-438-5852
Fax: 804-438-9043
Cell: 713-705-7235
E-mail: hufford1913@aol.com

Planning.comments.form@svinet2.fs.fed.us

05/03/2010 08:53 PM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject

Submitted by: Harold Sumpter Jr.
At: hsumpterjr@yahoo.com
Remark: I do not want to see anymore road closures in the forest. Public land needs to remain public. There are many respectable clubs in the region willing to step up to the plate and assist in maintaining the land responsibly.

Rekha Nadkarni
<rekha.nadkarni@verizon.net>

05/03/2010 09:53 PM

To comments-southern-georgewashington-jefferson@fs.fed.us
cc
bcc
Subject Comments on George Washington Forest Plan Revisions

Dear members of the planning team,

I appreciate the opportunity to convey my comments on the proposed revisions. I am extremely concerned about the proposal to develop oil and gas resources in the area for the following reasons:

1. The George Washington Forest provides unique recreational opportunities currently enjoyed by thousands of residents.

2. The forest provides a home for wildlife. Activities such as oil and gas production will surely disrupt their habitat.

3. The threat to ground water contamination is serious. Fresh water is a critical life sustaining resource for our area.

Our energy demand can be met in other ways. The most significant one is curtailing it by using efficient technology during production, distribution and end use. Tapping renewable sources including wind and solar are other ways to meet future increases in demand. Hence we need not give up a national preserve.

I sincerely hope that you will weigh the risks of developing oil and gas in the area against the benefits this forest provides and decide against development.

Thank you.

Sincerely,

Rekha Nadkarni
1205 Meadow Green Lane
McLean VA 22102

Planning.comments.form@ svinet2.fs.fed.us

05/03/2010 11:02 PM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject

Submitted by: Chris Detmer
At: christopher.detmer.ctr@jfcom.mil
Remark: I don\'t want any more road or trail closures in GWNF. Since trail degragation is often used as an excuse to close more and more trails. I would like ALL of the closed trails and roads reopend period to reduce wear and tear all trails.

If trails and acres continue to close to the public, I will insist that the park service budget be decreased accordingly. I will ask that staff be reduced as well since there will be no need to patrol or maintain the closed acrage and trails.

"McGlothlin, Daniel L Mr CIV USA AMC" <daniel.l.mcglothlin@us.army.mil>

05/04/2010 09:51 AM

To <comments-southern-georgewashington-jefferson@fs.fed.us>

cc

bcc

Subject Comment on George Washington Plan Revision (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

Thank you for the opportunity to comment on the George Washington and Jefferson National Forests regarding the management of off-highway vehicles (OHV). I urge the U.S. Forest Service (USFS) to ensure that responsible motorized access is not restricted.

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Recreation plays a role in addressing many of the issues raised by our current economic and social condition. It provides sustainable employment, economic growth, and has a positive effect on other administration-stated goals, such as addressing childhood obesity.

It is incumbent on the agency to fulfill its multiple use mandate as outlined in the Multiple-Use Sustainable Yield Act of 1960. The forest planning process should not be used to promote the management of additional public land for non-use. Rather, it should promote good management for sustainable multiple uses. Specifically, planners should seek to preserve and restore recreational access to our forests in the planning process.

The planning process should plan for the inclusion of responsible motorized recreation opportunities where appropriate and the use of established techniques for trail design, construction and maintenance.

Thank you for your time and consideration of my request.

Dan McGlothlin
Dublin, VA
540-731-5783
Classification: UNCLASSIFIED
Caveats: FOUO

United States Department of the Interior

Bureau of Land Management
Eastern States
Jackson Field Office
411 Briarwood Drive, Suite 404
Jackson, Mississippi 39206
http://www.es.blm.gov

IN REPLY REFER TO:
1610 (020) GT

May 3, 2010

Maureen Hyzer, Forest Supervisor
George Washington National Forest
5162 Valleypointe Parkway
Roanoke, Virginia 24019

Dear Ms. Hyzer:

This letter is in response to your request that the Bureau of Land Management (BLM) become a cooperating agency with the USDA, George Washington National Forest in an effort to publish a revised land management plan and environmental impact statement. Since the Forest Service and the BLM share responsibilities in managing oil and gas activities on National Forest System Lands it is a natural fit that we become a cooperator on this project. The Gold Book states: "On National Forest System lands, the Forest Service must approve the Surface Use Plan of Operations portion of the Application for Permit to Drill (APD) before the BLM can process the APD.

Additionally 40 CFR 1508.26 addresses that any other Federal agency with special expertise may participate as a cooperating agency. Special expertise is defined as statutory responsibility, agency mission, or related program experience.

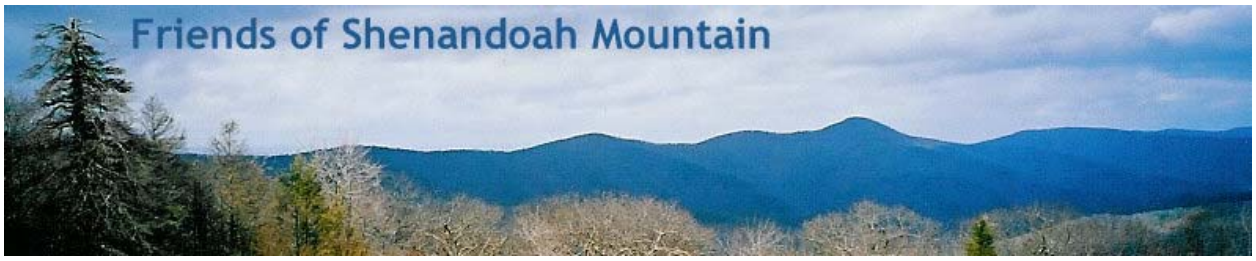
We will make every attempt to complete the RFD by June 1, 2010. However, if current situations hamper our efforts, we will have it ready by July 1, 2010.

We appreciate the opportunity to become a cooperative agency for this project.

Sincerely,

Bruce Dawson

(Acting for) Bruce E. Dawson
Field Manager



May 3, 2010

George Washington Plan Revision
George Washington & Jefferson National Forests
5162 Valleypointe Parkway
Roanoke, VA 24019

Dear Planning Team:

During the Forest Planning meeting on April 27 at Fairfax, off road vehicle enthusiasts raised the concern that the Shenandoah Mountain Proposal would close access to off road vehicles and would threaten the Shenandoah 500, an enduro sanctioned by the American Motorcyclist Association. We would like to correct this misconception. The Shenandoah Mountain Proposal would not close roads that are open to OHV enthusiasts.

Thank you.

Sincerely,

Lynn Cameron
Co-Chair
Friends of Shenandoah Mountain
5653 Beards Ford Rd.
Mt. Crawford, VA 22841
(540)234-6273
camerosl@jmu.edu

Thomas Jenkins
Co-Chair
Friends of Shenandoah Mountain
375 E. Wolfe St.
Harrisonburg, VA 22802
(540) 437-9000
tj@shenandoahbicycle.com

May 3, 2010

TO: Ken Landgraf and Karen B. Overstreet

Planning Staff GWNF

Subject: GWNF Revised Plan Drat EIS

As you know from previous input to the plan revision, my greatest concern is the overwhelming lack of attention by the GWNF staff in attending to the issues of forest health and wildlife species. As a professional forester working in the private sector, I find the lack of actual resource management on the GWNF as appalling. The Draft EIS should address the following items:

Since the 1993 Plan, the resources have been greatly impacted by a host of influences that have affected forest health. Because the GWNF has chosen not to control the spread of the gypsy moth there has been extensive forest wide mortality resulting in a change in stand composition from oak to non-mast producing species. This choice to ignore the cumulative impact of the gypsy moth should be clearly stated in the EIS, along with the acres of mortality since 1993, the projected future mortality, the impact on changing tree species, the impact on wildlife, the impact on water resources and the increased fuel load and potential for catastrophic fires.

Another issue that should be addressed in regards to the gypsy moth is the economic losses and costs placed on private landowners who border on the GWNF. Because there is no effort to control moth populations on the GW, you create a massive breeding ground for the insect to spread to adjacent private owned forests. This is no different than a fire that is left uncontrolled, by choice, on the forest service and allowed to cross the boundary onto private land. The GWNF should be held liable for its lack of control of gypsy moth as they would be with fire.

The hemlock woolly adelgid is slowly wiping out eastern hemlock as a tree species over the entire GW. The loss of this component of the forest is having an impact on wildlife species, and greatly reducing the integrity of riparian areas. Again, the dead trees are increasing the fuel load and potential for catastrophic fires. The EIE should address this loss.

Bark beetles have killed thousands of acres of pine stands since 1993, affecting wildlife and creating a major fire risk. Bark beetle infestation can be controlled by cutting and removing the “hot spots”. This practice is common on private and industrial forests nationwide. The GWNF has chosen to ignore this accepted method of control and knowingly allowed the beetle to spread with no effort to stop it. Again because of GW policy, you create a massive breeding ground that can spread to adjacent private land.

Because of the increased fuel loads from tree mortality, there have been a number of significant wildfires on the GW since 1993. These fires have produced tree mortality, loss of wildlife benefits, increased potential for water quality problems and threatened private property. The EIS should address

the total acres burned since 1993, the impacts and the increased potential for catastrophic fires over the next planning period.

Cumulatively, the negative impacts of the gypsy moth, hemlock wooly adelgid, bark beetles and fires have had a major influence on every aspect of the GWNF since 1993. The overall health of the forest on the GW has significantly declined clearly because of the management choice to allow insects to spread uncontrolled. The EIS should address the condition of the forest in 1993 and compare it to the current condition with a definitive statement explaining why the risks and impacts were known to exist and nothing done to prevent the damage. As an environmental issue, the gypsy moth should have top priority in this plan revision. Up to this point, the attention given by the GWNF staff is an embarrassment and unprofessional.

Because the GW has caved in to appease the no timber cutting faction, early successional stands have become rare. Because of the lack of this type of wildlife habitat, the population of several species have declined. Among them are ruffed grouse, deer, turkey and certain songbirds. Previous GW plans made predictions of future populations of deer and turkeys based on implementation of the plan management. Prior projections were made with the assumptions of maintaining a cutting level of approximately 3,000 acres per year. Since 1993 the amount of annual early successional habitat has been reduced by approximately 80%, as a management decision by the GWNF staff. This has created a severe decline in wildlife species that require openings and early successional habitat. The EIS should compare 1993 levels of early successional stands and associated wildlife species populations to current levels and future projections. There also needs to be a statement as to why the GW has allowed the amount of early successional stands to be so drastically reduced from what the 1993 plan called for and the environmental impact on wildlife.

Numerous research projects have shown a strong correlation between oak mast production and reproduction success of grouse, turkeys and deer. Acorn production for all species of oak has many factors which influence production, but two major items are age and tree diameter. Age and diameter of oak stands on the GW are controlled by the plan and staff decisions. As the oaks age and diameter exceeds optimum size, acorn production declines. With the added mortality from uncontrolled gypsy moth infestation and fires, the overall hard mast production on the GW is decreasing annually. This problem will increase as the surviving oak stands grow and age. Management decisions are putting all wildlife species that utilize acorns as a major food component in jeopardy. 90 % of the GW is projected as old growth under current direction, thus acorn production will drasticly fall. The EIS should discuss the immediate and long term impact of reduced acorn production and its influence on wildlife.

St. Mary's River in Augusta county has been limed twice to offset acidification and maintain a native brook trout population. There are other streams that have little or no buffering capacity left to combat acid deposition. Re-liming St. Mary's and identifying other streams with possible treatments should be considered in the EIS.

Thank you for allowing me the opportunity to provide my concerns in regards to the new EIS.

Sincerely,

Cliff Rexrode

1060 Rockfish Rd.

Waynesboro, VA 22980

Planning.comments.form@ svinet2.fs.fed.us

05/04/2010 10:44 AM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject

Submitted by: Ben Wood
At: lilredyj@hotmail.com
Remark: “I don\'t want any more road closure on the GWNF”.

Planning.comments.form@ svinet2.fs.fed.us

05/04/2010 12:58 PM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject

Submitted by: Kate Guenther
At: goatherderkate@yahoo.com
Remark: I attended the Verona Scoping meeting but did not comment at that time.

I would like to see the new GW Plan assess and quantify near-old growth,and maintain all old growth areas of the forest and also to protect the buffer areas around the old growth. I\'d like to see expansion of old growth particularly with an eye on creating or maintaining wildlife movement corridors which may become increasingly necessary to handle migrations due to climate change.

I have been told that there are 37 potential sites for potential wilderness areas and that only 4 are being considered. Please create protected wilderness to the full extent possible.

At the meeting , I heard a lot of representation seeking early succession creation. To me, the whole valley provides early succession and we don\'t need to go out of our way to create more of this. Just like the saying farmland lost is lost forever, in many ways I believe this to be true of the forest old growth as well. By creating wilderness, we create the opportunity for increasing old growth over time, protect our deep woods species, protect our watershed headwaters, limit roads and protect habitat for those species who don\'t have a voice in these planning meetings.

Thank you.

Kate Guenther
Churchville, VA

Fred Abbey
292 Far Knob Climb
Nellysford, VA 22958
April 28, 2010

Maureen Hyzer, Forest Supervisor
George Washington National Forest
5162 Valleypointe Parkway
Roanoke, VA 24019-3050

Re: Comment on George Washington Plan Revision

Dear Ms. Hyzer:

Thank you for the opportunity to comment on the development of the George Washington Forest Plan. I add my views shared by many others of the importance of the GWNF and the planning process. The public record demonstrates wide and deep community concern for the protection effective stewardship of our natural resources.

In particular, the plan must address how management will protect all old growth forests and effective, long term stewardship of the watershed. Disturbances in the forest impact the environments beyond its borders.

In addition to the many "what" the plan should focus, I am deeply concerned about the "how" the plan will be developed. Forest Managers are stewards of these natural resources and are inherently have an advocacy role. The plan should address this role in the course of the operations and management of the forest.

1) The **definition of the Forest in relationship to the ecosystem** it is a part. Enabling legislation and subsequent rules and plans may not take into account the Forest responsibility to plan as a part of a bigger system. What you do impact beyond the boundary of the forest. The plan should address the overall definition of the forests role in a defined ecosystem.
2) The **role of the Forest in the sequestration of CO2** should be quantified and managed over a longer term period. The contribution of older growth forests to the sequestration of CO2 is valued in terms of economics as well as environment. How will the

forest management determine the amount of CO2 sequestration it will contribute and that in turn will guide the harvesting of timber and replanting of forests? How will it approach changes to the valuation of timber as new methods of carbon offset trading are introduced in the future.

3) **The forest has a responsibility to lead and share its best practices** in the surrounding jurisdictions in the broader ecosystem. Development is the single largest trend that will impact our environment. Through outreach, partnerships, alliances with organizations, and local governments a broader stewardship culture could be facilitated. It cannot be effective without the largest land owner, i.e. GWNF, taking on this leadership role. How will management accomplish this role?
4) **Green Infrastructure planning** is essential and the GWNF incorporation and sponsorship of its principles should be included. There are many examples of effective planning throughout VA and the country and the plan should address its role in promoting surrounding communities use of its tools and techniques.
5) The **planning cycle should incorporate a natural measurement of time vs. a political one.** Planning with an end point of 10 or 15 years does not take into account "what if" scenarios that we have seen devastate our environments in the past. The American Chestnut blight and now the Ash bore change our forests. Can the plan incorporate ways to anticipate what may happen and how these scenarios influence the management of the forest and in particular its biodiversity. With effective scenario planning utilizing science and technology management decisions will be more informed.
6) The **forces of globalization and in particular China have huge impact on the future forest.** The plan should recognize and clearly detail how it will deal with the impact of new economic forces that have been brought about by the globalization of the economy. Canada and Australia have a decade of experience in selling its natural resources to China. Governor McDonald of VA shared his views at the VA Forest Association meeting on the importance of selling more of our timber to China and proposes to set up sales offices abroad. How will this economic force shape the future and can the plan anticipate these forces with proactive

management techniques? While it may not the Forest management's role to examine the complexities of global economics, it seems prudent to anticipate these forces and plan for how they will be addressed in the future. Who will examine these questions?

7) The GWNF management requires **new resources and competencies to meet the challenges of the future**. The plan needs to guide and inform the public how decisions will be made as resources expand and contract over the planning cycle. Are there new competencies that are needed to utilize technology as well as outreach? Identification of the optimal resources that are needed to meet the planning goals and objectives are critical. In resource constrained times anticipating how you will handle likely budget tradeoffs helps maintain momentum and disruption in programming.

The planning cycle represents a unique opportunity and I applaud and appreciate efforts to seek view points and issues of concerns. The tradeoffs between competing and often counter demands of the public are a difficult task. The plan and how it is shared, socialized and adopted are critical components.

Thank you.

Sincerely,

Fred Abbey
Nelson and Fairfax County, Virginia
frederick.abbey@gmail.com

AMERICAN MOTORCYCLIST ASSOCIATION

101 Constitution Avenue NW, Suite 800W, Washington, DC 20001
T: (202) 742-4301 F: (202) 742-4304

AmericanMotorcyclist.com

May 4, 2010

Karen Overcash
Planning Team Leader
George Washington Plan Revision
George Washington & Jefferson National Forests
5162 Valleypointe Parkway
Roanoke, VA 24019

Dear Ms. Overcash:

The American Motorcyclist Association (AMA) thanks you for accepting public comments on the George Washington and Jefferson National Forests Plan Revision. The AMA urges the U.S. Forest Service (USFS) to ensure that responsible motorized access is not restricted.

Founded in 1924, the AMA is the premier advocate of the motorcycle community. We represent the interests of millions of on- and off-highway motorcyclists. Our mission is to promote the motorcycle lifestyle and protect the future of motorcycling.

The AMA is very concerned about the potential impact this rulemaking may have on responsible motorized recreation opportunities on land managed by the USFS.

Of primary concern is a potential Wilderness designation. A Wilderness designation will close off motorized access to all forest service roads and roadless areas. This will affect the AMA sanctioned Shenandoah 500, which is a two-day dual sport trail ride held mostly in the George Washington and Jefferson National Forests.

Recreation plays a role in addressing many of the issues raised by our current economic and social condition. It provides sustainable employment, economic growth, and has a positive affect on other administration-stated goals, such as addressing childhood obesity.

It is incumbent upon the USFS to fulfill its multiple use mandate as outlined in the Multiple-Use Sustainable Yield Act of 1960. The forest planning process should not be used to promote the management of additional public land for non-use. Rather, it should promote active management for sustainable multiple uses. Specifically, planners should seek to preserve and restore recreational access to our forests in the planning process.

The AMA asks that the planning process plan to include responsible motorized recreation opportunities where appropriate and the use of established techniques for trail design, construction and maintenance.

Thank you for your time and consideration of our request. Should you have any questions or request additional information, please do not hesitate to contact Rick Podliska, Washington Representative, by phone at 202-742-4302 or by e-mail at rpodliska@ama-cycle.org.

Sincerely,

Edward Moreland
Vice President, Government Relations

"Bill and Susan Walls"
<walls2u@shentel.net>
05/05/2010 06:05 PM

To <comments-southern-georgewashington-jefferson@fs.fed.us>
cc
bcc
Subject Comments on GWNF plan

37 Miller Road
Edinburg, VA 22824
May 5, 2010

Ms. Maureen Hyzer, Forest Supervisor
George Washington National Forest
5162 Valleypointe Parkway
Roanoke, VA 24019-3050

Dear Ms. Hyzer:

We are writing to provide input to the George Washington National Forest (GWNF) plan currently in development. We attended the April 28 meeting the USFS hosted in Woodstock, Virginia and, while there were many topics of interest discussed, the one of particular importance to us is the potential to use public lands for wind turbines. In 2008, there was a proposal to place 131 440-feet tall wind turbines along the Great North Mountain ridgeline in Shenandoah County. You deemed the proposal outside of the parameters of the current plan for the GWNF; a decision with which we whole-heartedly agree. Still, with the new plan nearing completion, we would like to reiterate our concerns regarding wind turbines. As time goes by, land-based turbines have been found to be less efficient than their "rated capacity" resulting in no reduction in carbon production. Better, more efficient options, such as off-shore wind, are available without the use of public land.

Five to seven acres of cleared land is required per turbine and potentially hundreds of miles of new lines to connect turbines to the grid. Destruction of that much forest land will do irreparable damage to habitat, watersheds and scenic vistas. Twenty-two localities and more than 260,000 residents of western Virginia depend on the GWNF for drinking water. These watersheds should be mapped and fully protected. Water is a limited natural resource and already the source of conflict in parts of the world. (Water is also a critical component of gas hydrofracking, another controversial proposal for the use of the public forest. Water used to extract the gas is left contaminated.) Erosion and damage to wildlife habitat as well as the substantial impact on birds and bats are further reasons to not allow turbines on public land.

Thank you for listening. We request that you keep our concerns in mind as the planning process proceeds. The GWNF was set aside for public use. To allow private companies that offer nothing positive that outweighs the damage they have told us would be necessary is quite simply against the best interests of the public that uses the GWNF.

Sincerely,

/s/

William R. and Susan M. Walls

Ron Spillers
<mrschematic@yahoo.com>

05/05/2010 07:30 PM

To comments-southern-georgewashington-jefferson@fs.fed.us
cc
bcc
Subject Comment on George Washington Plan Revision

Dear George Washington plan revision committee,

The other night, I attended the 4/29/2010 Verona meeting for the GWNF revision planning. Thankyou for holding such events. These meetings are informative and really let the community have input in such an important process.

I am writing on behalf of trail access/ wilderness designation issues in the upcoming revision process. One of the issues raised in last night's meeting was that of forest disease/infection, and how it should be potentially treated. This is a significant issue to which trail access should take a back seat to, however, I feel that increased access through mixed use trails could lend itself to increasing firsthand awareness of such damaging issues. I would like to briefly share my story in the context of this larger issue to illustrate what I mean.

I moved to the Afton area in 2007 to work in a free public dental clinic in Augusta county as a dentist. One of the primary reasons for moving here was the GWNF outdoor activities-in particular, mountain biking. That year (before moving), I was involved in a car accident in Richmond Virginia, which crushed my hip, necessitating a hip replacement. Although I can still stand, extended walking is excrutiatingly painful. Hiking is out of the question. Before the accident, I loved to hike and camp, and still have much of that equipment (as well as nature photography equipment), however, as a result of my disability, it now resides unused in my shed. Ironically, (or fortunately), I can still bike for extended distances due to the fact that cycling is a non-weight bearing activity which doesn't wear on my hip. In effect, my bike is my wheelchair, and any trail which is closed to biking is essentially closed to me entirely.

I mention this because I heard last night about the diseased trees in the Ramsey's draft wilderness area, however, I not seen them firsthand because I am not able to go there due to my handicap/and the provision which prohibits biking in wilderness areas. In my case, limiting access through the wilderness designation has somewhat decreased my ability to see firsthand the damage that is occurring. Although I am just one person with a rather unique set of circumstances, increased trail access in general would allow more people to become aware of the forest beauties and challenges, and provide incentive to become involved, providing a larger voice for the forest service to obtain funding through legislative measures.

To that effect, I support measures which increase multi-use trails in the GWNF. I personally ride a lot of the North River District's trails, as well as Sherando lake/Big levels trails such as white rock gap, turkey pen trail, slacks, etc. Designating any of these wilderness areas reduces trail access and ELIMINATES my personal use of them, and reduces the general public's ability to enjoy and learn about these areas, making them less likely to want to become involved in the forest wellbeing. Wilderness designation reduces forest enjoyment/ awareness to a niched group of hikers and equestrians. Not everyone can afford to maintain horses, nor are all people physically able to hike endless miles. Keeping as much of the forest open to a widest diversity of users possible will benefit the forest in the long run. The mountain biking community, in particular, is one full of volunteers which can be used to augment the forest service. Tapping their willingness to help in trail maintenance can only help the forest service.

Thankyou for your time and consideration in this matter.

Sincerely,

Ronald E. Spillers D.D.S.

As the George Washington National Forest Plan Revision is being developed, I strongly urge that the following be taken into account.

There should be limited availability of oil and gas drilling leases in the National Forests. There should be stringent requirements for the application review process, including assessing what impact any mining operation, particularly hydrofracting, is likely to have on water sources (both private wells and public water sources), fish and wildlife, endangered species, and all environmental issues including air quality. Mining operations alter the forest landscape and have a proven negative effect on fish, birds and animals, and can allow harmful algae and other plant matter to gain a foot hold in what has been a pristine forest area. Therefore, these effects should addressed in the Plan.

Human errors and equipment malfunction can and very often do cause horrific environmental problems, as so recently evidenced by the oil dig disaster in the Gulf of Mexico. These should be anticipated, with appropriate precautions and financial remedies, such as realistic bond requirements, written into the new Forest Plan.

I feel the Plan regulations should also require that a study be conducted to determine the impact of drilling on the long-term socio-economic aspects on both the immediate and the neighboring communities. The study should include, among other issues, the effect of heavy truck traffic, damage to existing roads, dust and noise in the area and any health consequences that might be reasonably associated with oil and drilling operations.

I urge that there be no categorical exclusions included in the new regulations, exclusions that now allow mining operations on less than a set minimal acreage to proceed without the need to conduct an environmental analysis.

The National Forests are truly national treasures. My husband and I have enjoyed hiking and camping in the GW forest for many years and ask that it be protected to the fullest extent possible for future generations to enjoy. I respectfully ask that the new GW Forest Plan Revision put the interest of the public at the forefront and that the new Plan contain regulations regarding mining operations that assure limited alteration or destruction to our forests.

Ellen Nash
281 N. Main St.
Timberville, VA 22853
540 / 896-6201

"Brad Blake"
<bblake02@maine.rr.com>
05/05/2010 10:59 PM

To <comments-southern-georgewashington-jefferson@fs.fed.us>
cc
bcc
Subject No industrialization of GWNF

GWNF should be managed for its traditional multiple usesin its land use plan. It is an important source of timber and even the mechanization of timber harvesting has wrought greater negative impacts. The forest protects important watersheds and that protection should be one of the top priorities in the management of GWNF.

The forest ecosystem must not be destroyed by Gas Hydrofracking or Industrial Wind Installations. Neither of these activities are compatible with the forest ecosystem. Industrial wind sites are particularly horrendous because such a small trickle of electricity is gained at a very high cost to the environment. Forty story high industrial machines do not belong on mountain ridges. To install them, extensive blasting, leveling, and permanent clearcutting takes place, seriously fragmenting wildlife habitat. The access roads become huge scars on mountainsides, as the components and the cranes to erect them are so large. There are problems with silt and herbicide residues at these sites to keep them clear of re-growth. Lastly, it is well known that wind turbines are deadly to birds, especially raptors, and bats.

Please protect the GWNF from industrialization in updating the management plan.

Bradbury Blake, for
Friends of Lincoln Lakes
and
Citizens Task Force on Wind Power

Planning.comments.form@ svinet2.fs.fed.us

05/06/2010 07:09 AM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject

Submitted by: Rockfish Valley Foundation
At: info@rockfishvalley.org
Remark: The GW Forest extends into the Tye River and Rockfish River valley viewsheds. Rt 56 and Rt 664 are the principal roads west into the forest and up to the Blue Ridge Parkway. The main valley Road connecting these two scenic valleys is Rt 151. Principal mountains in the GW Forest are 3 Ridge Mtn and the Priest. All roads named above are scenic byways. The only scenic viewshed currently listed is a small portion of the forest in the Tye River Valley. There is Wilderness designation in both 3 Ridge and the Priest. Please consider the addition of additional scenic viewshed designation in this area. Suggested you take the NELSON SCENIC LOOP and visit www.nelsonscenicloop.com to visualize the importance of this comment. thanks.

Also consider strategic alliance with Virginia agencies including VA DOF and VA DGIF for education on the environment in this area and in particular with regards to the chestnut tree work in the Lescene Forest and the trout studies at Montebello Fish Hatchery.

Please pass this comment to Ginny williams and Ted Kaufman in the Roanoke office and contact us if we may amplify this comment.
Peter Agelasto, president
Rockfish Valley Foundation
www.rockfishvalley.org.

Planning.comments.form@ svinet2.fs.fed.us

05/06/2010 12:47 PM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject

Submitted by: Wendy E. Richards
At: richardsw@wlu.edu
Remark: Dear Forest Service Personnel,

I am writing to urge you to recommend permanent protection of the areas in the Shenandoah Mountain Proposal, created by the Virginia Wilderness Committee. This area, which includes 5 National Forest roadless areas and Ramsey's Draft Wilderness Area is one of the largest tracts of wild lands on National Forest land in the East. In the future these contiguous areas will only increase in value as they become more scarce. It is imperative that we set aside areas of public land that are not open to development.

I want to add my support to those who have so carefully crafted a proposal that sets boundaries based on current uses of this area while safeguarding wildlife habitat, watershed protection and opportunities for future generations to experience wild places.

I appreciate the opportunity to comment on the future plans for our National Forest.

Most Sincerely yours,
Wendy E. Richards
2105 S. Buffalo Rd.
Lexington, VA 24450

"Calvin Luther Martin"
<rushton@twcny.rr.com>
05/06/2010 01:09 PM

To <comments-southern-georgewashington-jefferson@fs.fed.us>
cc
bcc
Subject Plan comments

The GW National Forest is a precious national resource located only 100 miles from Washington DC and within a day's drive of nearly one third of our nation's population. The complex ecosystem is an invaluable wildlife habitat in the very densely populated mid-Atlantic corridor - a source for public recreation, including fishing, hunting, hiking, and camping. The forest is also an essential source of clean drinking water for hundreds of thousands of western VA residents. It's worth protecting!

Regarding the next GWNF 15 year land use plan presently under development, I write to urge that the plan continue to ban Industrial Wind Turbines anywhere in the GWNF.

Industrial Wind Projects are wholly incompatible with the Forest Service mandate "to nurture our forests for re-growth, harvesting and regeneration, protection of forest and animal habitat, and hunting and recreation."

They are proven to kill thousands of bats, migrating birds, and in GWNF in particular will kill protected bald eagles and the protected Indiana bat. Construction alone disrupts the watershed; perpetual use of herbicides to maintain dead zones throughout the projects is a further threat to ground water. Wind projects fragment and destroy habitat with minimal 5 acre clearings per turbine. New roads and clearings require blasting of ridge tops. And turbine bases built of tons of steel and concrete create hundreds of acres of dead zones within the forest.

Industrial Wind Projects on Great North Mountain would permanently eliminate essential portions of the Great Eastern Trail - the 1800 mile trail from Alabama to New York that the Forest Service is publicly committed to promote and protect. And hundreds of acres of restricted access for project security would destroy hunting in the forest.

An Industrial Wind Project on Great North Mountain would require miles of permanent new, wide roads on the mountain ridge top in what is now an essentially roadless area - directly in contravention to the declared GWNF commitment to build no new roads, and to decommission and abandon all non-maintained existing forest roads. And any wind project would require miles of new high intensity transmission lines, further fragmenting the forest habitat and scarring the viewshed. All for a technology that typically produces only 8% - 20% of the project "rated capacity." It's too much destruction for too little gain - a mindless destruction of the environment in the name of saving it.

Industrial Wind Projects require massive disruption of forest ecosystem and wildlife habitat

that in every way contravene the Forest Service mandate.

In short - Industrial wind projects don't belong in GWNF.

Sincerely,

Calvin Luther Martin, PhD (Retired Associate Professor of History, Rutgers)
Nina Pierpont, MD, PhD (in Population Biology/Ecology, Princeton University)

Planning.comments.form@ svinet2.fs.fed.us

05/06/2010 01:21 PM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject

Submitted by: Bobbi Beck
At: bobbi.beck@erols.com
Remark: Unfortunately I was out of the country and unable to attend the Apr. 27 meeting at the Fairfax County Gov. Ctr. regarding the G. W. National Forest New Forest Plan. It is imperative to me and my family as Virginia residents that we keep this Forest environmentally sound by maintaining it\'s ecological integrity.

I urgently request that the many threats to the Forest including: road building, non-sustainable logging, off road vehicle use and oil and gas development be seriously reviewed by environmental impact studies before any changes are made to this beautiful forest. I think that using the forest for energy development poses serious risks to our drinking water, among other things, and should only be undertaken after very careful study. The ecological integrity of the forest and our recreational opportunities are also at risk. I would like to see this Forest remain roadless and pristine as long as humanly possible.

Sincerely,
Bartbara A. Beck
11118 Forest Edge Rd.
Reston, VA 20190

K M Zunich
<kmzunich@iasispartners.com>
05/06/2010 01:42 PM

To comments-southern-georgewashington-jefferson@fs.fed.us
cc
bcc
Subject GW Plan Revision comments

History: This message has been forwarded.

Ladies & Gentlemen:

The George Washington National Forest faces more threats to its ecological integrity than ever. What would George Washington himself say about the threats posed by wreckless harvesting of the forest's natural resources such as oil and gas at any cost, the continued road-building, off road vehicle use, and non-sustainable logging? I strongly urge the GW Plan Revision Team to protect the forest and consider the following:

1. Ban hydraulic fracturing for natural gas in the GWNF;
2. Continue to ban industrial wind turbines in the GWNF;
3. Maintain the forest's ecosystem, especially clean water and old growth, and allow natural processes to determine the forest's composition;
4. Close all roads not being maintained and ban any expanded use of ATVs;
5. Recommend more land for wilderness designation;
6. Plan more hiking trails;
7. Protect all watersheds, especially those that directly supply drinking water;
8. Protect habitat for all endangered, threatened and rare species.

Thank you,
Kathryn M. Zunich, M.D.
--
Kathryn M. Zunich, M.D.
Managing Partner
Iasis Partners, LLC
3112 N. Peary Street
Arlington, Virginia 22207-5327
Tel 703 875 3106
www.iasispartners.com

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Planning.comments.form@ svinet2.fs.fed.us

05/06/2010 02:36 PM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject

Submitted by: Diana Woodall
At: vrksasana@hotmail.com
Remark: I am sorry I was not able to attend in person one of your meetings last week. I feel strongly about preserving wilderness and the integrity of our national forests, and in fact one of the reasons I choose this area to move to was because of the large areas of national forest and national wilderness.
I support all of the requests of Wild Virginia below, namely:

The revised forest plan should:

1. Protect all areas identified in the Virginia\'s Mountain Treasures publication by designating them as unsuitable for timber harvest, new road building, and surface-occupying oil and gas drilling;

2. Plan for climate change by protecting core wilderness areas, reducing forest fragmentation and decreasing and eliminating non-climate stresses such as logging, road building and oil and gas leasing;

3. Identify all qualified roadless areas and protect all roadless areas, whether previously inventoried or recently identified, consistent with the provisions of the 2001 Roadless Rule;

4. Protect the Shenandoah Mountain Area for its unique ecological and recreational attributes by endorsing the proposal for a National Scenic Area on Shenandoah Mountain as described on the Friends of Shenandoah Mountain Website: http://www.friendsofshenandoahmountain.org/;

5. Protect all existing Old Growth forest;

6. Protect all watersheds especially those that directly supply drinking water;

7. Protect and buffer all \"Special Biological Areas\";

8. Protect sufficient habitat for all endangered, threatened and rare species--especially the Wood Turtle, the Cow Knob Salamander, Cerulean Warbler, and Indiana Bat;

9. Recommend substantially more areas for wilderness and for national scenic area designation than the small increase in wilderness the Forest Service has suggested so far.

Kmzmd@aol.com
05/06/2010 04:10 PM

To comments-southern-georgewashington-jefferson@fs.fed.us
cc
bcc
Subject Comments on George Washington National Forest Plan

George Washington to his Farm Manager, January 25, 1795:
“It is always in one’s power to cut a tree down, but time only can place them where one would have been, after the ground is stripped.”

Please preserve the GW National Forest's ecosystem. Ban hydraulic fracturing for natural gas. Ban further wind farm development. Preserve the watersheds. Protect the land.

We need to honor George Washington's namesake and honor his legacy.

Thank you.
Kathryn Lewis
Arlington, Virginia

R. BROOKE LEWIS
3112 NORTH PEARY STREET
ARLINGTON, VIRGINIA 22207
703/528-0665

May 10, 2010

George Washington Plan Revision
George Washington & Jefferson National Forests
5162 Valleypointe Parkway
Roanoke, VA 24019-3050

By email and not by mail

Re: Comments to George Washington Plan Revision, 2010

Ladies and Gentlemen:

I write as a citizen of Virginia and an owner of property sharing a border with the George Washington National Forest, one of the last remaining mostly pristine sections. I feel strongly that the Forest Service should adopt the following policies with regard to the GW Forest plan:

Take every measure possible to maintain the forest in its pristine condition both as a wildlife and recreation area and because it is the **source of clean drinking water** for a major portion of the nearby population.

Sources and quality of drinking water from the GW Forest should be mapped, monitored, and studied. Pollutant sources should be tracked and polluters stopped by enforcement and other legal means.

Prohibit wind farms because of the forest destruction, edge habitats, roads, clear cutting, transmission lines, bird and bat kills, and all other environmental degradation that results from this activity. There are plenty of privately-owned sites in the area for this activity.

Prohibit gas and oil drilling or leasing, or any other harvest of sub-surface materials, for all the above reasons (including killing of even more species) and because of the air, water, and noise pollution caused by such drilling. Especially damaging is hydrofracture drilling because of the highly-polluting method used. For situations in which mineral rights are held in private hands, if the Forest Service is unable to prohibit gas or oil extraction, the hydrofracture method should be prohibited because if its destructiveness. Because of extreme destruction of the environment in several states by hydrofracture drilling, the EPA has announced a new study of the practice. Two states at least- New York and Pennsylvania- have proposed a moratorium on hydrofracture mining. It would be foolhardy to proceed with this activity in the GW Forest in the face of evidence elsewhere.

Prohibit any new road-building or other edge habitat-creating activity in the forest.

Prohibit timber harvesting in the forest. This taxpayer-subsidized activity depletes the forest at little or no gain to society. It is a handout to the timber industry of a national resource.

Where possible, prohibit the use of motorized vehicles, especially their use off of roads.

Continually study the benefits to human and animal life that are reaped by preserving the forest in a contiguous, non-segmented state, and publicize your findings widely.

The George Washington National Forest is a beautiful national treasure that gives us oxygen, clean water, wildlife habitat, and recreation for thousands of our citizens.

To the extent possible, let's leave it alone except for protecting and visiting it, and let it be what it has been for the eons before we humans decided we needed to intervene.

Thank you for considering these and other comments.

Yours sincerely,

R. Brooke Lewis

Jeff Kelble
<jeff@shenandoahriverkeeper.org>
05/06/2010 05:18 PM

To comments-southern-georgewashington-jefferson@fs.fed.us
cc Kate Wofford <kwofford@svnva.org>, David Hannah <dhannah@wildvirginia.org>
bcc
Subject GW Plan Revision

George Washington Plan Revision
George Washington & Jefferson National Forests
5162 Valleypointe Parkway
Roanoke, VA 24019-3050

Dear Concerned,
I submitted comments on behalf of Shenandoah Riverkeeper and its members on April 19th, but I'd like to change my comments/add some comments regarding Marcellus Shale Extraction. These comments refere to development of the National Forest Plans for the Geoge Washington National Forest. Thank you for adding these to the public record and for considering these comments:

Protect Ground and Surface Water from Marcellus Shale Natural Gas Drilling
Development of the Marcellus Shale play and extraction of natural gas through hydrofracking is a MAJOR issue that did not exist during the previous forest planning process. I strongly suggest that the forest plan carefully consider Marcellus Shale in order to protect the public's use of the forest and it's natural streams. Additionally, under President Obama's executive order on the Chesapeake Bay, the Forest Service is compelled to give additional consideration to the effects of Marcellus on the goals of bay restoration.

The GW National Forest lies on top of the Marcellus Shale geological formation, a promising source of natural gas. Reportedly, there are 30,000 acres of private lands in the northern Shenandoah Valley now under lease for natural gas drilling. Yet there are not sufficient federal or state regulations to protect water quality from the impacts of a gas mining process called hydraulic fracturing, despite reports of water contamination and other public risks. The new Forest Plan should:

· Prohibit any natural gas leasing or drilling within the 44 percent of the GW National Forest, a total of 425,874 acres, which contains watersheds for the five public reservoirs and eight rivers or creeks that provide public drinking water in the Shenandoah Valley.
· Impose a moratorium on natural gas leases elsewhere in the forest

until the U.S. Environmental Protection Agency completes a national study on, and develops regulations governing, the water quality and public health impacts of Marcellus Shale natural gas drilling.

Provide For Comprehensive Management of Drinking Water Resources

The GW National Forest supplies drinking water to a quarter of a million Valley residents. SVN and 40 local governments or civic groups adopted resolutions in the past two years calling on the Forest Service to provide comprehensive protection of drinking water resources. The new Forest Plan should:

· Identify and map the health of entire drinking watersheds in the forest, not just the perimeters around public reservoirs or the buffers on streams.
· Develop specific management objectives for these watersheds that make it just as important to preserve, protect or enhance water quality in sensitive watersheds as it is to facilitate other forest activities.
· Create and implement a plan to monitor the health of drinking water resources (reservoirs, rivers, streams, watersheds) to ensure a continued supply of clean water from the forest.
· Work with local communities, agencies and the public to permanently maintain water quality from forest sources, and thus avoid the costly need for public water treatment plants.

Protect Sensitive Mountain Ridges from Industrial Wind Energy Development

In 2009, the GW National Forest denied a request from a private company to build 131 wind turbines in the forest on Great North Mountain, an action we strongly endorsed. The forest's public lands are not the right place for commercial wind power projects.

· The destructive impacts of road building, clearing and construction fragments the forest landscape and affects water quality and wildlife habitat.

· Wind energy towers impact the natural views and vistas valued by forest visitors and local residents.
· Operation of large-scale wind turbines on our Appalachian ridges can have substantial impacts on wildlife, particularly rare bat species and migratory birds.
· There is plenty of private land with equal potential to generate wind power, before public lands are ever developed.

Thank you for updating my comments,
Jeff Kelble
Shenandoah Riverkeeper

--
Jeff Kelble
Shenandoah Riverkeeper
P.O. Box 405
Boyce, VA 22620
Phone: 540-837-1479
Cell: 540-533-6465
Email: jeff@shenandoahriverkeeper.org
Website: www.shenandoahriverkeeper.org
Recognized as "one of the best small nonprofits" by Catalogue for Philanthropy

United Way # 9335 * CFC # 87828 *

Shenandoah Riverkeeper uses citizen action and enforcement to protect and restore water quality in the Shenandoah River Valley for people, fish and aquatic life

David Hopewell
<david@heidengroup.com>

05/06/2010 05:27 PM

To comments-southern-georgewashington-jefferson@fs.fed.us
cc
bcc
Subject Comment on George Washington Plan Revision

I attended the recent Fairfax scoping meeting with great interest. I am a regular visitor to the GWNF and truly believe that we can find a proper balance between conservation and public access. In going forward with the plan revision I would hope that several issues are addressed. I will keep them short and in bullet form.

1. Preserve and expand the existing motorized road and trail mileage in the forest - do not recommend any wilderness that would close roads.
2. Adopt a better format for the MVUM - currently it is hard to read with the letter P obscuring every FR number.
3. Reopen Peavine Forest Rd 318 and the Patterson ATV Area.

Thank you for your time -

David

--
David Hopewell
The Heiden Group
--
david@heidengroup.com
Office 571.449.5189
Herndon, Virginia
www.heidengroup.com

gregory sprigg
<gregorysprigg@mac.com>

05/06/2010 09:22 PM

To "comments-southern-georgewashington-jefferson@fs.fed.us" <comments-southern-georgewashington-jefferson@fs.f
cc
bcc
Subject Fwd: GWNF 15 year plan - comments

I write to urge that the GW National Forest 15 year land use plan under review continue the existing ban on Industrial Wind Turbines in the GWNF.

Industrial Wind Projects are wholly incompatible with the Forest Service mandate "to nurture our forests for regrowth, harvesting and regeneration, protection of forest and animal habitat, and hunting and recreation."

Wind projects fragment and destroy forest habitat. New roads and clearings require blasting and flattening of ridge tops, permanently destroying habitat and the viewshed. Wind turbines kill thousands of bats and migrating birds. In GWNF, wind turbines will kill protected bald eagles and the Indiana bat as well.

The GWNF provides drinking water to nearly 260,000 western VA residents. Old growth forest provides some of the purest water on earth. Wind turbine projects are a direct threat to that drinking water. Elimination of critical biomass increases wasted runoff and reduces water filtration; perpetual use of herbicides to maintain dead zones throughout the length of the projects further threatens ground water.

As for recreation, an Industrial Wind Project on Great North Mountain would permanently eliminate significant miles of the Great Eastern Trail, a hiking trail running roughy 1800 miles from Alabama to New York that the Forest Service is publicly committed to promote and protect.

Anyone who has seen Industrial Wind Projects knows most are declared Off Limits, surrounded by security fences and sometimes guards; at five acres of clearing per turbine, hundreds of acres of restricted access would destroy hunting on Great North Mountain in the forest.

The Forest Service is on record seeking to build no new roads, and even to abandon all unmaintained existing roads in GWNF. But an Industrial Wind Project on Great North Mountain would require miles of new, permanent roads on the mountain ridge top in what is now an essentially roadless area. Miles of new high intensity transmission lines would be required, further fragmenting the forest habitat and scarring the viewshed.

Smply put, Industrial land-based Wind Projects are not green and completely conflict with the Forest Service mandate. Land-based Industrial Wind Turbine Projects typically generate less than 20% of their highly touted "rated capacity." Existing conventional power plants must remain online 24 hours/day to provide energy during the 80% (or more) of the time wind isn't blowing. In our region, this means that coal fired plants must remain online - burning coal 24/7 - to backup highly inefficient and unpredictable wind power generation. In essence, wrecking the environment while claiming to save it.

Industrial Wind Projects require massive disruption of forest ecosystem and wildlife habitat. In every way they are at odds with the goals of Forest Service stewardship. Any citizen who hunts, hikes, bikes, bird watches, breathes the fresh air, drinks the fresh water - or simply enjoys the beauty and magnificence of the 1.1 million acres of protected forest has an active interest in maintaining the ban on wind projects in GWNF.

Industrial wind projects don't belong in GWNF.

Sincerely,

Gregory Sprigg

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Sincerely,

Gregory Sprigg

MARYLAND ORNITHOLOGICAL SOCIETY, INC.

COMMENTS OF THE MARYLAND ORNITHOLOGICAL SOCIETY

On scoping for the plan revision, George Washington National Forest, presented at a Forest Service public meeting in Fairfax, Virginia, April 27, 2010

I am George Alderson, of 112 Hilton Avenue, Baltimore, Maryland 21228. I am presenting these comments on behalf of the Maryland Ornithological Society (MOS). This statement has been authorized by the Executive Council and the Conservation Committee of MOS.

MOS appreciates the opportunity to submit these comments for the scoping phase of the plan revision effort for the George Washington National Forest. Previous public participation activities consisted of workshops in rural communities near the national forest, but did not provide equivalent opportunities for those of us who live in the metropolitan areas such as Washington, DC, and Baltimore. Visitors who live in metropolitan areas are the GW's largest clientele. From now on, we hope the Forest Service will do more to involve these millions of visitors in the planning process.

The GWNF is important to us because there is no national forest in Maryland. Our members visit those in neighboring states, most often the GWNF and the Monongahela. The national forests provide a resource of roadless areas with intact, uninterrupted wildlife habitat that supports a diverse population of birds and other forms of life.

MOS is a statewide nonprofit organization established in 1945 and devoted to the study and conservation of birds. Currently we have 15 chapters and approximately 1,500 members. Some are scientists and naturalists, but our membership includes people of all ages and all walks of life, from physicists to firefighters, legislators to landscapers. Birding is one of the fastest growing types of outdoor recreation. MOS members travel to national forests and other federal lands on birding and nature-watching vacations throughout the United States. We spend money on food, lodging, guide services, books, and souvenirs to support the local economy wherever we go.

Wild Lands Are Vulnerable

The increasing pressures for development of publicly owned lands in the Mid-Atlantic region leave the national forests vulnerable. Forest plans in themselves do not give Forest Service managers an adequate defense against these pressures. Already our members have seen wildlife habitat in the Allegheny National Forest damaged by roads built for oil and gas drilling. The same is happening in western Maryland, and it may also be a threat to the GWNF.

Logging in roadless areas of the GWNF or in old growth stands would mean new roads that that would fragment wildlife habitat. Commercial wind development along ridgelines could interfere with important bird migration routes and spoil the scenic vistas now enjoyed by visitors to the Shenandoah Valley. The best defense is to seek statutory protection for the finest roadless areas and wildlife areas of the GWNF, and channel development into areas that have already been disturbed.

National Scenic Areas

We favor the recommendation for a Shenandoah Mountain National Scenic Area (NSA) of 115,000 acres, as proposed by Friends of Shenandoah Mountain and many endorsing organizations. The NSA would give statutory protection to the wild lands in the segment of Shenandoah Mountain between US 33 and US 250, west of Harrisonburg and Staunton. The NSA would bar oil and gas leasing, logging, new roads, or commercial wind developments. Shenandoah Mountain is known as an excellent birding area. The Virginia Department of Game and Inland Fisheries in its guidebook "Discover Our Wild Side" recommends several areas for birding here.

We compliment the citizens' groups and stakeholders in Virginia for their long and careful consideration of different management options for these extraordinary wild lands. Many conflicts have been resolved through negotiations. The current proposal is supported by diverse groups representing mountain bikers, hikers, rafters, horse riders, and botanical societies.

We also support the proposed Kelly Mountain – Big Levels National Scenic Area, encompassing 12,895 acres south of Waynesboro. It has been recommended by Friends of Shenandoah Mountain and many other Virginia citizens' groups.

Wilderness

At present six areas are protected as wilderness on the GWNF, totaling 42,674 acres and representing about 4 percent of the total acreage of the forest. Those wilderness designations were made by Acts of Congress between 1984 and 2000. The last forest plan was adopted in 1993. Since then, the need for wild places has become much stronger. We have seen at first hand the huge growth in bird and nature-watching. The GWNF, situated within a two-hour drive of 10 million people, now has more visitors each year than many national parks. We believe more of the forest must be protected as wilderness, to assure that future visitors will find the wild places intact. Wilderness is a very scarce resource in the Mid-Atlantic region, and qualified areas should be protected.

In this case, Virginia citizens' groups have devoted years to studying the roadless areas of the GWNF, testing them against the criteria for designation as wilderness, and negotiating with diverse stakeholders to resolve potential conflicts entailed in wilderness designation. We urge the Forest Service to support this good work, and help to prepare wilderness recommendations that will strengthen the hand of future forest managers in resisting pressures for development.

Within the Shenandoah Mountain NSA we recommend the designation as wilderness of four units that have retained their wild character, namely Skidmore Fork (5,228 acres), Little River (12,490 acres), Lynn Hollow (6,168 acres), and Bald Ridge wilderness addition (6,550 acres). We also favor the Laurel Fork Wilderness of 10,153 acres.

Conclusion

The George Washington National Forest is a national treasure. Its greatest value to residents of our entire region is as a reserve of natural wild land. Nothing should be allowed in the new forest plan that would allow logging in roadless areas or add new roads or developments incompatible with protection of wildland values. Just the opposite: more protection for those values should be added through wilderness recommendations and designation of national scenic areas. In the draft plan, we urge the Forest Service to recommend a preferred alternative that includes the two national scenic areas and the wilderness areas discussed above.

May 5, 2010

Henry B. Hickerson
Acting Forest Supervisor
USDA/Forest Service/GWJNF
5162 Valleypointe Parkway
Roanoke, VA 24019-3050

Thank you for your notice of public comment review period on the 2010 George Washington National Forest (GWNF) Plan. FreedomWorks, LLC ("FreedomWorks") must first commend the US Forest Service on their commitment to help address the anthropogenic affects on climate change by incorporating renewable energy projects within the scope and categories of acceptable uses for the National Forest System. We hope that our comments that follow will help to assist Forest Service in fulfilling their mission and with their efforts to manage the many diverse public expectations for use of the working lands of the United States.

As you may know, FreedomWorks spent a great deal of time and energy over the last three years engaged in various attempts to secure Forest Service approval for wind energy project at the GWNF. Central to our argument for permit approval is that Federal Law requires the installation of renewable energy systems on National Forest lands. Using cleaner energy from renewable resources reduces greenhouse gases. U.S. Climate Change Science Program stated in 2008 that greenhouse gases are increasing changes in climate and disturbances projected for the future are expected to lead to substantial alterations in our forests and the services they provide. In addition, the International Panel on Climate Change (IPCC 2007) has identified future impacts of temperature warming, changes in precipitation, extreme weather events, severe droughts, earlier snowfall, rising sea levels and other changes that could significantly affect forest ecosystems. Installing renewable energy generation systems is therefore consistent with Forest Plans that are looking for strategies to mitigate climate change.

First Federal Law that called for renewable energy as a requirement on Forest Lands is the Energy Policy Act of 2005 (EPAct 2005). EPAct 2005, Section 211 impacts the U.S. Department of Agriculture, Forest Service (USFS) to ensure jobs for America's future with secure, affordable, and reliable energy. EPAct 2005 requires that the Department of the Interior approve projects on public lands with the capacity to generate at least 10,000 megawatts of electricity from non-hydropower renewable energy.

In response to EPAct 2005 USFS sponsored and funded NREL/BK-710-36759 technical report in January 2007 with stated goal of "Assessing the Potential for Renewable Energy on the National Forest System Lands." The USFS was instructed to use the technical report and CD findings to consider potential for development of solar and wind energy resources on NFS lands, in land management decisions specifically in response to EPAct 2005. The Geographical

Information System (GIS) based analysis resulted in the following findings: (1) Ninety-nine National Forest Units have high potential for power production from one or more of these solar and wind energy sources; and (2) Twenty National Forest Units in nine states have high potential for power production from two or more of these solar and wind energy sources. Within the NREL report, 29,069 acres were identified as having 588 megawatts of rated wind energy generation potential in GWNF in Virginia and 6,741 acres were identified as having 136 megawatts of rated wind energy generation potential in the GWNF in West Virginia (see TAB 1).

During the July 11, 2006 Forest Service testimony before the Committee on Energy and Natural Resources, United States Senate, Renewable Energy on Federal Lands, Associate Chief Forest Service - Sally Collins stated that "Renewable energy development plays a significant role in the agency's implementation of the Energy Policy Act of 2005, Public Law 109-58"

A second Federal Law that calls for renewable energy as a requirement on Forest Lands is the 2007 Energy Independence Security Act (EISA 2007). EISA 2007, Section 808(b), impacts the USFS to move the United States toward greater energy independence and security, to increase the production of clean renewable fuels, to protect consumers, to increase the efficiency of products, buildings, and vehicles, to promote research on and deploy greenhouse gas capture and storage options, and to improve the energy performance of the Federal Government, and for other purposes. EISA 2007 requires that, not later than January 1, 2025, the agricultural, forestry, and working land of the United States provide from renewable resources not less than 25 percent of the total energy consumed in the United States.

In response to EISA 2007, USFS George Washington and Jefferson National Forest's (GWJNF) GIS Group prepared and released a series documents that evaluated, cataloged and mapped sites and areas generally suitable for: wind generation; timber production; timber harvesting for other multiple use reasons; and specified road construction specifically tailored to support special areas identified in the Forest Service then preferred Initial Working Copy Version 1 of a GWJNF Forest Plan update that was to replace the current approved 1993 GWJNF Forest Plan.

In 2007, Presidential Executive Order 13423 made mandatory that all agencies use renewable energy in their energy portfolio. In 2007, USFS issued new draft rules related to wind turbines on National Forest Service land.

In December 2007, FreedomWorks, LLC contacted the GWJNF Supervisor Maureen T. Hyzer to propose two wind energy projects within the boundaries of the GWJNF. In January 2008, Forest Service point-of-contact - Wayne Johnson was assigned to begin work on FreedomWorks ' unsolicited proposal wind energy projects at Peter Mountain in Monroe/Giles Counties and Great North Mountain in Hardy/Shenandoah Counties within GWJNF.

On February 28, 2008, Forest Service conducted a Pre-screening Meeting on FreedomWorks' request for wind energy generation projects within the boundaries of the GWJNF. During the meeting, FreedomWorks withdrew the proposal for wind energy project at Peter Mountain based upon environmental impacts identified by the Forest Service. Also during this meeting, Forest Service - Wayne Johnson went on record to make the comment: "I can't think of a better place

than Great North Mountain for wind energy project within George Washington Jefferson National Forest." FreedomWorks' proposed wind energy project at Great North Mountain is identified within Forest Service Mapping dated February 9, 2007 as an area generally suitable for wind generation siting. Mr. Johnson directed FreedomWorks to gain all other Federal and State agency approvals for the proposed wind energy project prior to a formal submittal to the Forest Service.

By June of 2008, FreedomWorks had received all other Federal and State Agency required approvals - with the exception of the Forest Service - to begin exploration of a proposed wind energy project within GWNF. List of these permits includes: Federal Aviation Administration/Department of Defense/National Telecommunications and Information Administration and National Oceanographic and Atmospheric Administration approvals for airspace, signals and training with separate West Virginia Department of Natural Resources Scientific Collection Permit for Endangered Species and Virginia Department of Game and Inland Fisheries Threatened/Endangered Species for bird and bat studies in both Virginia and West Virginia.

On June 18, 2008, FreedomWorks submitted a 2nd formal permit request for wind energy project within GWNF to the Forest Service. A new point-of-contact was assigned by Forest Service to replace Mr. Wayne Johnson, who had since left the Agency. During the next few months, FreedomWorks was unable to meet with the new point-of-contact or to get any status report on the progress on our 2nd formal permit application request.

In September, 2008 Forest Service Ranger – Mr. James Smalls was assigned as FreedomWorks' 3rd new point-of-contact to adjudicate and administrate our proposed wind energy project permit application at Great North Mountain.

On September 30, 2008 Forest Service Ranger – Mr. James Smalls directed FreedomWorks to submit Standard Form 299 (SF-299) application for Special-uses permit to facilitate wind energy generation feasibility studies in conjunction with Forest Service conducted NEPA study of a proposed wind energy analysis, at Great North Mountain. On October 5, 2008 FreedomWorks submitted a 3rd formal request for wind energy project permit in the form of USFS SF-299 application for Met tower studies, only.

On October 13, 2008 Forest Service provided a letter in response to FreedomWorks' October 5 SF-299 submittal. The letter directed FreedomWorks to secure a Columbia Gas (NiSource, Inc.) easement and right-of-way grant for Met tower #3 prior to a new SF-299 re-submittal; and combine all Met tower requests special use permit requests into a single submittal rather than submit separate permit requests incrementally.

December 7, 2008 FreedomWorks resubmitted a 4th formal request of SF-299 application for Special- uses permit to install three Met towers, incorporating the Forest Service's October 13 response to comments and dropping Met tower #3 permit request due to infeasibility of securing a Columbia Gas easement and right-of-way sub-lease of a separate Forest Service Special-uses permit land grant.

A Draft 2009 Forest Plan Revision changed the classification of the proposed wind energy project site at Great North Mountain to "Management Area 14 - an area not considered remote and where roads may occasionally be paved."

On April 2, 2009, just twenty days shy of the 39th anniversary of Earth Day, a letter from Forest Service Supervisor Maureen T. Hyzer denied FreedomWorks a Special-uses permit to explore a wind energy project in GWNF based upon current 1993 Forest Plan that identified proposed wind energy site as: "Semi-Primitive Motorized (Subclass 2) - an area removed from human activity;" and because of Bat mortality count analyses relating to White Nose Syndrome that would be further impacted by wind energy project. The letter also included an offer that Forest service would evaluate future FreedomWorks energy project proposals within GWNF.

In response to Forest Service letter of April 2, 2009 FreedomWorks explored other opportunities within the Mid-Atlantic Region for wind energy generation. We were unable to find any property with suitable wind resource in Virginia, West Virginia, Pennsylvania or Maryland for similar sized wind energy project, including in the Chesapeake Bay, within 100 statutory miles of the U.S. Capital. After an exhaustive search for suitable energy resource properties, we concluded that Great North Mountain offered the only opportunity for a 200 megawatt sized utility-scale wind energy project within 100 miles radius of the U.S. Capital.

In 2009 Executive Order 13514 signed by President Obama made requirement that Federal Agencies reduce Scope 1, 2 and 3 green house gas emissions by 20% by year 2020.

The Draft February 2010 Management Situation Analysis included with the 2010 Forest Plan concludes:

"The strategies for the George Washington National Forest focus on both adaptation (ways to maintain forest health, diversity, productivity, and resilience under uncertain future conditions) and mitigation (such as carbon sequestration by natural systems, ways to provide renewable energy to reduce fossil fuel consumption, and ways to reduce environmental footprints). These strategies focus on: 1) reducing vulnerability by maintaining and restoring resilient native ecosystems; 2) providing watershed health; 3) providing carbon sinks for sequestration; 4) reducing existing stresses; 5) responding to demands for cleaner energy including renewable or alternative energy; and 6) providing sustainable operations and partnerships across landscapes and ownerships."

However,

- In spite of the overwhelming regulatory requirement to generate energy from renewable resources on National Forest Lands, and

- The DoE/NREL prepared technical report showing the potential for utility-scale renewable wind energy generation at the GWNF, and

- Forest Service's own prepared mapping showing where renewable wind energy could occur on GWNF at Great North Mountain, and

⇨ Forest Service Management Analysis of the GWNF Forest Plan calling for renewable energy generation,

There are no areas that are identified as appropriate for renewable energy generation within the current GWNF Forest Plan!

Instead, the 2010 GWNF Forest Plan mapping and documentation places an emphasis on remote settings and habitat management prescriptions and identifies the entire area that FreedomWorks requested a permit to explore a wind energy project at Great North Mountain as "Remote Backcountry Recreational" use area 12D, effectively removing the indentified wind energy resource from being considered for use in a renewable wind energy generation project for the foreseeable future.

The 2010 GWNF Forest Plan highlights that Virginia's forest lands sequester approximately 23 million metric tons of CO_2 per year but an average of 27,000 acres of forestland is lost annually to development. The George Washington National Forest encompasses about 1 million acres (or seven percent) of the forest lands in the state. Therefore, GWNF sequesters approximately 1.61 million metric tons of CO_2 annually or approximately 1.61 tons of CO_2 per acre per year.

By contrast and example, one Vestas V112 2.0 megawatt wind turbine generator (WTG) requires roughly 32 acres of clearing per wind turbine generator including access roads, set-up areas and actual physical footprint. In a 7 m/s mean wind speed area similar to that estimated to be available at Great North Mountain, each V112 2.0 WTG machine can produce approximately 7,000 MWh of clean renewable wind generated electricity annually; or 241 tons CO_2e offsets per acre utilizing the grid specific emission factors provided in the U.S. EPA's Emissions and Generation Resource Integrated Database (eGRID) tool. This illustrates how wind energy generation at Great North Mountain would be 149 times more efficient at sequestering carbon than the native forest, alone.

$$\mathbf{ER_y = ES_y \times EF_{EL}}$$

Where:

$\mathbf{ER_y}$	Emission reductions in the year "y" (tCO_2e)
$\mathbf{ES_y}$	Quantity of electricity supplied to the grid in year "y" (MWh)
$\mathbf{EF_{EL}}$	U.S. projects: Carbon emission factor for grid electricity (taken from the most recent sub region specific eGRID values – measured in $lbCO_2/MWh$) *2204.62 For non-Annex 1 countries: UNFCCC Grid emission factor as defined by the appropriate Designated National Authority

In the wake of the Deepwater Horizon oil platform environmental disaster that began on the 40th Anniversary of Earth Day April 22, 2010 - a disaster which is currently spewing over 200,000

gallons of crude oil into the Gulf of Mexico each and every day it remains uncapped – we need to keep focused on what is environmentally sound energy policy, and what is not.

We believe sound environmental policy for a GWNF Forest Plan includes:

1. Renewable wind energy allocations in the new Forest Plan for the GWNF; and,
2. The capture and resettlement of affected fauna species that would be adversely impacted by a wind energy generation project; and,
3. Reforesting of timber at de-forested National Forest lands to help mitigate the impact of a wind energy project; and,
4. Replanting and replenishment of native flora species in previously de-forested areas as mitigation strategy for a wind energy project; and,
5. Reforesting of a wind energy project site after project useful life decommissioning; and,
6. Relocating impacted trails during construction, operations and useful lifecycle maintenance of a wind energy facility to maintain opportunities for recreation.

When employed together, we believe these strategies can be effective approaches to mitigate the effects of new wind energy generation on Forest Lands of the United States. Further, that these approaches should be weighed carefully with other considerations to give due diligence to wind energy opportunities at GWNF.

In conclusion, because Great North Mountain is at the extreme north end of the GWNF away from the core of the forest habitat, and for the reasons listed above, FreedomWorks strongly recommends that Great North Mountain should be included in an approved GWNF Forest Plan as an area suitable for renewable wind energy generation development.

With kind regards,

Tim Williamson,
Managing Director
FreedomWorks, LLC

Enclosure:
As stated.

Table C-1C (continued). U.S. National Forest Units Listed Alphabetically with Maximum Development Potential – Wind

National Forest Unit	State	Area (acres)	Maximum Development Potential (MW)*
Eldorado	California	1,443	29
Fishlake	Utah	13,077	265
Flathead	Montana	16,813	340
Francis Marion-Sumter	South Carolina	4,520	91
Fremont	Oregon	29,800	603
Gallatin	Montana	49,410	1,000
George Washington	Virginia	29,069	588
	West Virginia	6,741	136
George Washington Total		*35,810*	*725*
Gifford Pinchot	Washington	52,059	1,053
Gila	New Mexico	7,136	144
Grand Mesa-Uncompahgre-Gunnison	Colorado	11,297	229
Green Mountain and Finger Lakes	New York	259	5
	Vermont	53,344	1,079
Green Mountain and Finger Lakes Total		*53,603*	*1,085*
Helena	Montana	57,792	1,169

525 Wren Lane □ Harpers Ferry, West Virginia 25425 □ (202) 369-6324

"Henry Staudinger"
<hjs@shentel.net>
05/06/2010 11:54 PM

To <comments-southern-georgewashington-jefferson@fs.fed.us>
cc
bcc
Subject GW Plan Revision Comments

George Washington Plan Revision
George Washington & Jefferson National Forests
5162 Valleypointe Parkway
Roanoke, VA 24019-3050

Comments regarding the proposed George Washington National Forest Plan Revisions.

It is very important that the Forest Service consider and address the potential adverse impact of the new emphasis on oil and gas drilling techniques that could be used on National Forest lands. Please consider not only the adverse impact on the forest ecosystem because of the need for many new roads which can result in considerable forest fragmentation; the need for considerable use of those roads and sections of the national forest as the areas are developed; the large amounts of water used in the process as well as the brine, tailings; other things that are part of the process; as well as the potential adverse impact on water quality in the surrounding area and the other adverse economics on those who live near the national forests as well as those who visit the national forests.

Henry Staudinger
2218 Riverview Dr
Toms Brook, VA 22660

ralph bolgiano
<rapsie@yahoo.com>
05/07/2010 06:28 AM

To comments-southern-georgewashington-jefferson@fs.fed.us
cc
bcc
Subject Plan Comments

Dear Sirs;
Following are my thoughts on the proper management of the GWNF:
1) Manage the GWNF as an ecosystem. Declare that the primary value of the GWNF is in clean water and undisturbed land for recreation and wildlife species diversity.
2) Minimize disturbances such as road building and use by motorized vehicles.
3) Ban industrial exploitation such as wind turbines, gas, oil, and coal extraction.
4) Designate land for Wilderness: All the tracts identified in the 2009 VA Mountain Treasures Book should be included.

Thank you for this opportunity to comment on the 15 year plan revision.

Sincerely, Ralph Bolgiano

Ralph W. Bolgiano

The Fulks Run
International Airport
at the base of
Cross Mountain

enduro3478@verizon.net
05/07/2010 06:40 AM

To comments-southern-georgewashington-jefferson@fs.fed.us
cc
bcc
Subject Comment on George Washington Plan Revision

To: Subject: Comment on George Washington Plan Revision

Thank you for the opportunity to comment on the George Washington and Jefferson National Forests regarding the management of off-highway vehicles (OHV). I urge the U.S. Forest Service (USFS) to ensure that responsible motorized access is not restricted. Further, the new plan should allow for expansion of motorized recreation into additional appropriate areas and to allow for single track trails open only to motorcycles.

As an OHV enthusiast, I am very concerned about the potential impact this rulemaking may have on responsible motorized recreation opportunities on land managed by the USFS.

One concern is a potential Wilderness designation. A Wilderness designation will close off motorized access to all forest service roads and roadless areas. This may affect the Shenandoah 500, which is two-day national dual sport held mostly in the George Washington and Jefferson National Forests.

Motorized recreation plays a role in addressing many of the issues raised by our current economic and social condition. It provides sustainable employment, economic growth, and has a positive effect on other administration-stated goals, such as addressing childhood obesity.

It is incumbent on the agency to fulfill its multiple use mandate as outlined in the Multiple-Use Sustainable Yield Act of 1960. The forest planning process should not be used to promote the management of additional public land for non-use. Rather, it should promote good management for sustainable multiple uses. Specifically, planners should seek to preserve and restore recreational access to our forests in the planning process.

The planning process should plan for the inclusion of responsible motorized recreation opportunities where appropriate and the use of established techniques for trail design, construction and maintenance.

Thank you for your time and consideration of my request.

Joe Epperson

Northern Virginia Trail Riders

"Charlotte Hughes"
<achughes@shentel.net>
05/07/2010 09:47 AM

To <comments-southern-georgewashington-jefferson@fs.fed.us>
cc
bcc
Subject Comments on GW Plan Revision

George Washington Plan Revision

George Washington & Jefferson National Forests

5162 Valleypointe Parkway

Roanoke VA 24019-3050

RE: Comments on the proposed George Washington National Forest Plan Revision

Please consider all of the potential adverse impact of the new emphasis on oil and gas drilling techniques that could be used in National Forest lands as well as the potential adverse impact on water quality in the surrounding area.

Charlotte & Alton Hughes

209 Cannon Hill Road

Mt Jackson VA 22842

Planning.comments.form@ svinet2.fs.fed.us

05/07/2010 12:29 PM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject

Submitted by: David Graham
At: grn.meanie@gmail.com
Remark: I would like to make sure that no current roads or trails of any sort are not closed. I would also like to see development of areas for high clearance vehicles. Specifically in the Harrisonburg, Va area.

Planning.comments.form@ svinet2.fs.fed.us

05/07/2010 01:10 PM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject

Submitted by: William Monroe
At: wmonroe@co.augusta.va.us
Remark: The Augusta County Service Authority located in Verona, Virginia, provides public water and sewer services to the citizens of Augusta County. The Authority currently maintains the Coles Run Dam located in the Big Levels area of the George Washington National Forest and requests clarification in the revision to the Forest Plan Revision allowing for the development of public water wells (deep wells) on National Forest Property. The Authority is willing to participate in and would encourage discussions related to this matter in an effort to provide a reasonable approach to the permitting process that provides protection to the natural resources and also provides an equitable approach to well development and utilization of this renewable resource. The Authority has developed wells across the County and takes a number of precautions to ensure that other water resources are not impacted. The National Fores!
t provides a natural watershed protection buffer and if properly utilized could provide a source of drinking water for the public while meeting the other objectives of the forest management plan.

****

William A. Monroe, P.E.
Director of Engineering
Augusta County Service Authority
18 Government Center Lane
Verona, Virginia 24482
P: 540-245-5670
F: 540-245-5684
www.acsawater.com
****

Mike Capraro
<mikecapraro@yahoo.com>

05/07/2010 02:27 PM

To comments-southern-georgewashington-jefferson@fs.fed.us
cc
bcc
Subject Comment on George Washington Plan Revision

To Whom it May Concern:
I have been mountain biking and doing trail maintenance work in the the George Washington National Forest since the early to mid nineties. I moved out to the Shenandoah Valley in 2003 primarily to be closer to the National Forest. On average, my wife and I and with various friends are out on the trails there once a week, typically riding mountain bikes and doing trail cleanup of logs and branches as we go along. We have visited nearly every trail in the Lee District at one time or another.

About a year ago, I became "chainsaw certified", and now our trips are much more productive with the chainsaw. I would estimate we have cleared hundreds, approaching five hundred, logs and trees blocking or threatening to fall on the trail since then. This work has benefitted all users of the trails, including hikers, campers, hunters, equestrians, Forest Service employees, photographers, students and researchers.

I do not want to see any areas listed as "wilderness" or "potential wilderness", as wilderness prohibits mountain biking on the trails and use of power equipment (including chainsaws and brushcutters) to maintain them. The Lee District of the GWNF is surrounded by areas of

wilderness:
- to the east is Shenandoah National Park, which is 40% Wilderness, and the other 60% prohibits mountain bikes on the trails
- to the west there are countless thousands of acres of wilderness designated land in West Virginia National Forests
- to the south there is wilderness designated Forest land south and west of Harrisonburg

This is one of the things that makes the Lee District so great - the fact that there isn't the prohibitions on bikes on the great trails there. Other districts and National Forests in Virginia already have plenty of wilderness areas.

Please do not turn the National Forest into a National Park. I like the way the GWNF is managed. It truly is the "Land of Many Uses". Please do not make it the "land of a few uses, primarily hiking and climbing over logs blocking the trail". As it is now, the GW offers something for everybody, with plenty of quiet places where someone can get away from it all. Please do not make changes to designations that are exclusive and discriminatory towards any user groups that are already enjoying the Forest now. Please do not make any designations that would limit the ability to use power tools to keep the trails open for all users.

I would love to see some new well designed and built multi-use trails, and some of the current trails rebuilt or rerouted to make them more user friendly, ecologically friendly and sustainable for the long term with less

erosion. I do not want to lose any trails
or lose and land that could become
trails to wilderness designations.
Thank you,
Mike Capraro
Linden, Virginia

Sherman Bamford
<bamford2@verizon.net>
05/06/2010 10:40 PM

To comments-southern-georgewashington-jefferson@fs.fed.us
cc Sherman Bamford <bamford2@verizon.net>
bcc
Subject Comment on George Washington Plan Revision

History: This message has been forwarded.

Revised comments
Begin forwarded message:

From: Sherman Bamford <bamford2@verizon.net>
Date: May 6, 2010 10:30:55 PM EDT
To: comments-southern-georgewashington-jefferson@fs.fed.us
Cc: Sherman Bamford <bamford2@verizon.net>
Subject: Comment on George Washington Plan Revision

Sherman Bamford

Virginia Forest Watch

P.O. Box 3102

Roanoke, Va. 24015-1102

(540) 343-6359*

bamford2@verizon.net

*If you have any questions about this letter

Apr. 6, '10
George Washington Plan Revision
George Washington & Jefferson National Forests
5162 Valleypointe Parkway
Roanoke, VA 24019
comments-southern-georgewashington-jefferson@fs.fed.us

To Maureen Hyzer, Forest Supervisor, and Planning Staff:

In response to the Notice of Intent that appeared in the Federal Register, the following are comments on the upcoming Forest Plan Revision and upcoming Environmental Impact Statement and (other upcoming analysis) related to the George Washington National Forest (GWNF).

These comments address major issues we believe should be considered in the Plan Revision process. These comments also address, to some degree, existing documents released to the public in the Key Documents section of the Forest Plan Revision webpage. We will make additional comments on these documents further

at a later point. These comments are submitted on behalf of Virginia Forest Watch and the Virginia Chapter of Sierra Club.

Our previous comments on the GWNF Plan Revision Process are incorporated by reference, in full.

Conservation Alternative
We ask that the FS analyze, in detail, the Conservation Alternative submitted by Ernie Reed of Heartwood and others, and include it among all other alternatives fully examined in the Draft and Final Environmental Impact Statement. [This Conservation Alternative and the Conservation Alternative of Steven Krichbaum are incorporated by reference in full into this letter.] The 1982 Rule on National Forest System Land Management Planning, Authority. Source: 47FR 43037, September 30, 1982 specifies that the "interdisciplinary team shall formulate a broad range of reasonable alternatives…to provide an adequate basis for identifying the alternative that comes nearest to maximizing net public benefits (Sec. 219.11, 5f). The Notice of Intent states that the agency is soliciting "comments on the need for change, proposed actions, issues and preliminary alternatives". This document in conjunction with that which is being submitted concurrently as the Conservation Alternative of Steven Krichbaum, comprise a significant and important alternative, not replicated or related to any of the alternatives contained in the Notice of Intent. We, therefore, request that the Conservation Alternative be given full consideration and the full NEPA analysis be conducted on the Concurrent Conservation Alternative including net public benefits analysis.

The current Remote Habitat/Remote Recreation Alternative has some good aspects, but falls short in many areas. In fact, as it stands, we believe that it is possible that negative aspects of this alternative may outweigh some of its positive aspects. But this alternative needs to be fully examined before that determination can be made, however, and it should be examined alongside the Conservation Alternative and other alternatives.

We want to mention a few of the "trade-offs" that are being proposed in the Remote Habitat/Remote Recreation Alternative that we question. For example, a very large acreage of the Forest is assigned to MRxA 10B, sustained timber management. This includes part of Snake Run Ridge Virginia Mountain Treasure Area (VMT) and part of the Peters Mtn North special biological area, all of Frozen Knob special biological area, large tract of land surrounding the Hoover Cr area (where an outstanding old growth tract was found and logged), areas close to the boundaries of numerous inventoried roadless areas and VMTs, the area surrounding Augusta Springs Wetland and numerous other important and sensitive areas. Also, in this alternative, Virginia Mountain Treasures and other important areas identified by the public are not protected from salvage logging (MRxA 12D). We wonder why a new prescription was created, instead of using the more logical MRxA 12C (Natural Processes in Backcountry Areas), which already exists (or similar designations), where salvage logging is not allowed and where roads are required to be decommissioned. In this alternative, ATV/OHV trails are retained in or near special biological areas, despite the history of damage to surrounding areas on existing ATV/OHV trail systems in the GWJNFs. That is putting surrounding areas at enormous risk. In addition, the emphasis is on Remote Habitat/Remote Backcountry only, so other types of biological values & habitats in non-remote areas (eg some salamander, wood turtle habitat) may not be adequately protected since these fall outside of the theme of the alternative.

Introduction:
There are many issues which should be addressed during the process.□□ Among the foremost,

The following issues (as well as any other issues raised elsewhere in these comments or in our prior comments on the plan revision, including in our 2008 and 2009 comments) should be identified as significant issues and studied in the EIS and alternatives should be developed around them. Many of these have not yet been examined, or not adequately examined, in the revision process.

- Plant and animal species diversity, including direct, indirect and cumulative effects of various plan alternatives on diversity.

- Fish and wildlife species population viability, including direct, indirect and cumulative effects of plan alternatives on species viability, the identification of management indicator species (MIS) and the plan for monitoring MIS populations.

- Rare and at-risk species, including federally Threatened, Endangered, Sensitive and Locally Rare species, and species in need of conservation identified in the Virginia Wildlife Plan.

- Old growth forest – all existing old growth should be protected. Old growth prescriptions are needed, as in the revised Jefferson National Forest (JNF) plan.

- Watershed protection, water quality and water quantity and aquatic habitat, including direct, indirect and cumulative effects on water quality and quantity (including drinking water quality) and on aquatic habitat (including habitat for rare species and native brook trout), and alternatives for improving water quality. Need watershed management prescriptions for certain watersheds (as in the JNF plan).

- Climate change, including the direct, indirect and cumulative effects of climate change on the forest's ecosystems and alternatives for increasing the forest's resilience and adaptation to climate change and for mitigating the effects of climate change through carbon sequestration.

- Ecological restoration

- Recommendations for additional Wilderness, National Scenic Area (NSA) and National Recreation Area (NRA) designations, including a range of reasonable alternatives and analysis of the environmental effects of choosing not to recommend areas for wilderness designation and, therefore, not allocating them to the protective recommended wilderness study prescriptions. See California v. Block, 690 F.2d 753, 764 (9th Cir. 1982)

(requiring site-specific evaluation of impact of not recommending wilderness designation upon each area's wilderness characteristics and value).

- Lands to be made available to BLM to lease for oil and gas development, including thorough, careful consideration of the direct, indirect and cumulative impacts of development using hydraulic fracturing in the formations underlying much of the GW.

- Lands available for special uses, including analysis of adverse impacts of industrial wind turbine facility development.

- Identifying and planning to achieve the required "minimum road system".

- Ecosystem services, including the benefits of clean air and water, and the economic benefits from outdoor recreation and tourism on the GW.

- Lands suitable for timber production and timber harvest levels, including proper identification, according to the 1982 regulations, of lands suitable for timber production, as well as the full disclosure of the costs and receipts of the timber program (i.e. disclosure and assessment of the below-cost timber program as well as the amount of suitable land planned for timber harvest and the reasons for said harvest.)

- Establishing a monitoring program that requires clear, measurable objectives for management projects implementing the forest plan and that can measure the extent to which projects achieve their objectives.

The Forest Service should:

· Protect all areas identified in the Virginia's Mountain Treasures publication by designating them as unsuitable for timber harvest, new roadbuilding, and surface-occupying oil and gas drilling

· Plan for climate change by protecting core wilderness areas, reducing forest fragmentation and decreasing and eliminating non-climate stresses such as logging, road building and oil and gas leasing

· Identify all qualified roadless areas and protect all roadless areas, whether previously inventoried or recently identified, consistent with the provisions of the 2001 Roadless Rule

· Protect the Shenandoah Mountain Area for its unique ecological and recreational attributes by endorsing the proposal for a National Scenic Area on Shenandoah Mountain as described on the Friends of Shenandoah Mountain Website: http://www.friendsofshenandoahmountain.org/

· Protect all existing Old Growth forest

· Protect all watersheds especially those that directly supply drinking water

· Protect and buffer all "Special Biological Areas"

· Protect sufficient habitat for all endangered, threatened and rare species—especially the Wood Turtle, the Cow Knob Salamander, Cerulean Warbler, and Indiana Bat

· Recommend substantially more areas for wilderness and for national scenic area designation than the small increase in wilderness the Forest Service has suggested so far.

Fully analyze the Conservation Alternative and Remote Habitat/Remote Recreation Alternative.

We request that the FS review the issues raised and follow the recommendations in the VAFW *et al* . report entitled: "Our Land, Our Water, Our Home: Ensuring a Healthy Future For Our George Washington National Forest" (see http://www.virginiaforestwatch.org/docs/ourland.pdf, incorporated by reference in full into this letter).

Among other recommendations in the report, VAFW calls upon our Forest Service public servants entrusted with the stewardship of our George Washington National Forest, to:

Ø Manage our GWNF, which are public lands, for values and resources that are not ordinarily available or protected on private lands.

Ø Emphasize backcountry recreation such as hiking, camping, bird-watching, horseback riding, mountain biking, hunting and fishing.

Ø Ensure that all watersheds, sources of clean water, and native Brook Trout

streams are fu lly protected.

Ø Fully protect all "inventoried" roadless areas. Identify and fully protect all other remaining roadless tracts.

Ø Fully protect all areas identified in the forthcoming publication "Virginia's Mountain Treasures: The Unprotected Wildlands of the George Washington National Forest." These areas provide the last, best places for outstanding recreation in the backcountry, and intact habitat for migratory songbirds, Black Bear and other wild life.

Ø Respond to the threat of climate change by restoring and protecting wildlife migration corridors.

Ø Fully protect all existing old growth and maintain sizeable uncut buffers and natural linkages around these areas.

Ø Fully protect all areas recommended by the Virginia Division of Natural Heritage for designation as Special Bio logical Areas. Also thoroughly survey West Virginia lands of the GW for special sites. Fully protect all rare, threatened and endangered species listed by the U.S. Fish and Wild life Service and the Virginia Division of Natural Heritage.

Ø Fully protect and buffer rare and sensitive habitat conditions such as springs, seeps, rocky slopes and outcrops, steep slopes, sensitive soils, nutrient poor sites, and rare forest types.

Ø Create recovery and reintroduction plans for native species no longer found on the GW, for example, potentially the blight-resistant American Chestnut when fully developed. Make a Plan priority the aggressive combating of the loss of Hemlocks to the Wooly Adelgid.

Ø Halt below-cost logging that loses millions of American taxpayers' dollars.

Ø Identify and recommend all areas that qualify for Wilderness Study Area and Wild & Scenic River designation.

Ø Use *A Citizens' Call for Ecological Rest oration: Forest Restoration Principles and Criteria* (Ecological Restorat ion, Vol. 21, No.1, 2003) to guide management objectives.

Ø Aggressively address the encroachment of non-native invasive species. Restore remote interior forests to help stop the influx of invasive species by closing unneeded roads that cannot be properly maintained and that act as corridors for many of these invasive species.

Ø Only when absolutely necessary, use logging to open cleared, shrubby areas used by certain wild life, and locate any such areas, called "early successional habitat," close to existing roads and existing open areas on privat e or public lands to lessen the impacts of forest fragmentation across the landscape. If early successional forest must be maintained for some species, then re-cut sites that have been recent ly logged.

Ø Avoid using "prescribed" burns in moist areas and other areas where they are not appropriate, and allow lightning ignitions to burn in a contained manner.

Ø Fully recognize the vital role lightning ignitions and other natural disturbances play in promoting biological diversity and new growth and maintaining forest health.

Ø Prepare a full Environmental Impact Statement in support of the Plan revision. A wide spectrum of the public demands these changes.

We also recommend that the FS follow the recommendations in the publication "Forests For the Future": http://www.virginiaforestwatch.org/docs/GWNF-Vision-2.pdf, , incorporated by reference in full into this letter and the recommendations of "Virginia's Mountain Treasures: The Unprotected Wildlands of the George Washington National Forest", submitted to the FS, already in the FS's possession.

Forest Service Strategic Plan

"The six goals are:

1. Reduce the risk from catastrophic wildland fire.

2. Reduce the impacts from invasive species.

3. Provide outdoor recreational opportunities.

4. Help meet energy resource needs.

5. Improve watershed condition.

6. Conduct mission-related work in addition to that which supports the above agency goals." - 4

**** Timber and road program harms the achievement of goals 1-3 & 5, goal 4 harms the achievement of 1-3

Context

At 1.1 million acres Virginia's George Washington National Forest (GWNF) is the largest National Forest in the eastern United States. The GWNF stretches across mountains on both sides of the Shenandoah Valley, and can be reached in a few hours from many of the major cities of the eastern US.

Surface drinking water sources on or downstream from the GWNF include sources supplying numerous communities. ("drinking_water_streams2.pdf"

in Forest Plan materials on-line)

The GWNF provides Virginian's with exceptional recreational opportunities such as camping, hiking, hunting, fishing, mountain biking, rock climbing and bird watching. The GWNF's location only a few hours away from major population centers make it a highly important backcountry recreation center. The Forest is viewed by thousands of people along scenic corridors like the Blue Ridge Parkway; long-distance trails like the Appalachian Trail, the Tuscarora Trail, and the Great Eastern Trail (more miles of the AT pass through Virginia than any other state); and major highways like Interstate 81.

There are more acres of inventoried roadless areas in Virginia than any other state east of the Mississippi River. The 403,000 acres of roadless areas in the two forests comprises over half of the total roadless area acreage in the southern Appalachian national forests. Approximately 35% of the roadless areas in the Southern Region of the Forest Service are found in the GWNF alone.

Forest Service studies demonstrate a large and growing demand for wild areas. The FS estimates that visits to wilderness will increase by 171% over 2000 levels by 2050. (JNF Plan FEIS (2004) 306-307). In spite of this, only 5% of the GWNF is designated wilderness, compared to 18% of the National Forest system as a whole (and compared to 17% in the Lower 48 states and Puerto Rico. Our entire Southern Appalachian region is under-represented; in the entire 37-million-acre region, only *ca* . 1.1% (428,000 acres) is currently designated as Wilderness (Loomis and Richardson 2000 at pp. 20-23; Cordell, SAMAB SAA Social Technical Report at 178-82; USDA FS Southern Research Station 2006).

Over 90,000 comment letters were submitted by Virginians in favor of roadless area protection.

According to the National Survey on Recreation, approx. 88.6% of local residents near the GWNF view "protecting streams and watershed areas" as important; Approx. 64.5% of local residents near the GWNF view "designating more wilderness areas" as important; 74.7% view this as extremely important. Approx. 82.5% of local residents near GWNF view "protecting old growth forests" as important; 59.2% view this as extremely important. Approx. 91.2% of local residents near the GWNF view "protecting critical home for plant and animal species" as important; 66.4% view this as extremely important. (JNF Plan Revision FEIS B-54 & 55 and per. Comm.. Ted Koffman, GWJNFs Supervisors Office, Sept. 11, '06).

Roadless Areas, Mountain Treasure Areas, and Friends of Shenandoah Mountain Proposal

Some of the largest remaining unfragmented "roadless areas" and ecosystems in the eastern United States are located in the George Washington National Forest. Many of these have been identified by citizen groups as "Mountain Treasure areas", outstanding roadless areas and backcountry recreation areas selected for their value as wildlife refugia, provision of clean water, and for other significant values (The Wilderness Society, Virginia Forest Watch, Sierra Club, et al. *Virginia's Mountain Treasures: The Unprotected Wildlands of the George Washington National Forest* , 2008).

The FS should plan for climate change by protecting core wilderness areas, reducing forest fragmentation and decreasing and eliminating non-climate stresses such as logging, road building and oil and gas leasing. See, e.g. "Wilderness, Protected Areas and Climate Change" by David N. Cole, Aldo Leopold Wilderness Research Institute, Rocky Mountain Research Station, USFS: " The mere existence of wilderness and protected areas is a critical means of adapting to climate change because their existence reduces the adverse effects of change on ecosystem services and values. Climate change will cause species to move to environments to which they are better adapted. If species are unsuccessful in migrating to a suitable environment, we will see increasing extinction rates and loss of biodiversity. Protected areas provide undisturbed corridors and elevation gradients in an otherwise fragmented landscape for species migration. They also provide valuable genetic reservoirs necessary for restoring a depleted biota." http://www.fs.fed.us/ccrc/topics/wilderness.shtml

The FS should protect areas identified in the Virginia's Mountain Treasures publication by designating them as unsuitable for timber harvest, new roadbuilding, and surface-occupying oil and gas drilling.

Two action alternatives are being considered, the "More Emphasis on Remote Recreation & Remote Habitat" Alternative and the "Need for Change" alternative. We are concerned that the relatively weak "Need for Change" alternative will be given more weight than other alternatives, as was the case with the "Rolling Alternative" in the Jefferson National Forest. As it stands today, there is a need to recommend substantially more areas for wilderness and for national scenic area designation than the small increase in wilderness the Forest Service has suggested in the "Need for Change" alternative so far. The "More Emphasis on Remote Recreation & Remote Habitat" Alternative goes further than this and is a strong alternative in many respects. The FS could improve upon this alternative in several areas [see pages 1 and 2, above for a few examples], however, as well. We ask that the Conservation Alternative submitted by Ernie Reed of Heartwood and others be fully analyzed as well.

We are supportive of the "Friends of Shenandoah Mountain Proposal" (http://www.friendsofshenandoahmountain.org/):

Shenandoah Mountain National Scenic Area – approximately 115,000 acres in Augusta, Rockingham and Highland Counties. The Scenic Area includes these proposed Wilderness areas:

a. Skidmore Fork Proposed Wilderness 5,228 acres in Rockingham County

b. Little River Proposed Wilderness 12,490 acres in Augusta County

c. Lynn Hollow Proposed Wilderness 6,168 acres in Highland County

d. Bald Ridge Addition to Ramsey's Draft Wilderness 6,550 acres in Augusta County

The Shenandoah Mountain area, particularly between Rt. 250 and Rt. 33 in Virginia, is a special area within the GWNF. The recreational and ecological value of the mountain is tremendous, and it deserves lasting protection from logging and road-building.

The proposal

- Includes 5 National Forest roadless areas and Ramsey's Draft Wilderness Area.

- Is one of the largest tracts of wildlands on National Forest land in the East.

- Has exceptional scenery and wildlife habitat, including over 250 species of birds as well as black bear, native trout, and a number of rare species.

- Provides outstanding recreational opportunities including camping, hiking, mountain biking, horseback riding, fishing, hunting, rock-climbing, and birding.

- Developed recreational opportunities include campgrounds at Todd Lake, Hone Quarry, Braley Pond, and North River.

- Fishing abounds at Switzer Lake, Hearthstone Lake, Briery Branch Lake, Elkhorn Lake, and Braley Pond.

- Other important recreational/historical spots include Reddish Knob, High Knob Fire Tower, Confederate Breastworks, and Mountain House picnic area.

- The area has an exceptional 150-mile trail network, including the Wild Oak National Recreation Trail. The new Great Eastern Trail follows the crest of the mountain. Has potential for even better trail networks, including more mountain bike loops to avoid riding on roads.

- Offers outstanding opportunities for solitude.

The "Friends of Shenandoah Mountain Proposal encompasses important watersheds, including Skidmore Fork (Switzer Lake) for • Harrisonburg, Staunton Lake, and North River for Bridgewater and Harrisonburg. Also provides clean air and erosion and flood control for residents of the Shenandoah Valley. A broad coalition of businesses, faith groups, recreation groups, conservation groups, academic societies, and other groups supports the proposal. (http://www.friendsofshenandoahmountain.org/ see

endorsees list).

Other significant roadless areas (inventoried and uninventoried) throughout the GWNF are high priorities for us.

Old Growth

The FS should protect and buffer all existing Old Growth forest. Old growth forests comprise only about 0.5 percent of the forested areas of the southeastern region as a whole according to the Forest Service's own regional old growth guidance. And many remaining tracts in the Eastern US are small tracts of 40 acres or less (See Mary Byrd Davis ed, Eastern Old Growth, and other sources). Forest Service logging has recently occurred in old growth forests such as the Peters Mountain North, the Hoover Creek, Parkers Gap, and Overly Run old growth areas.
Old growth should be protected for its research and scientific values, wildlife and botanical resources, educational values, existence values, cultural and spiritual values and recreational values (see, e.g. Southern Region Old Growth Guidance for description of these values).

Unfortunately, current plan direction allows old growth of the most abundant forest type on the GWNF to be cut down, and the FS is proposing to allow cutting of old growth in a new forest type despite the overall rarity of old growth on the landscape and despite the relatively small size of remaining tracts. This effectively puts a bulls eye on some of our best remaining old growth. Under the new plan revision, remaining old growth forests should be fully protected and uncut buffer zones around these forests should be maintained.

Rare and Federally Listed Species

Th FS should protect sufficient habitat for all endangered, threatened and rare species—especially the Wood Turtle, the Cow Knob Salamander, Cerulean Warbler, and Indiana Bat. Some rare species on the GWNF are at the edge of their range (e.g., the wood turtle) and vulnerable. Others, such as the Indiana bat, have seen declining populations in the past, and now face new threats such as white-nose syndrome. Other, such as mussels and aquatic species, are threatened by declining water quality in some areas:

According to a study commissioned by the American Fisheries Society Endangered Species Committee, there are "297 native freshwater mussels [in the U.S. and Canada], of which 213 taxa (71.7%) are considered endangered, threatened, or of special concern... and only 70 (23.6%) as currently stable... Freshwater mussels (also called naiads, unionids or clams) of the families Margaritiferidae and Unionidae are worldwide in distribution but reach their greatest diversity in North America with about 297 recognized taxa... During the past 30 years, numbers both of individual and species diversity of native mussels have declined throughout the United States and Canada. Freshwater mussels (as well as other aquatic species) are emperiled

disproportionately relative to terrestrial species... This alarming decline, the severity of which was not recognized until recently, is primarily the result of habitat destruction and degradation associated with adverse anthropogenic activities." (Williams, Warren, Cummings, Harris and Neves, 1993)

Remote Habitat for Wildlife

The agency is considering doing away with key protections within the existing "Remote Habitat for Wildlife" management prescription, which was originally established to protect black bears and other wildlife that flourish in remote settings. The prescription area currently comprises 133,000 acres, approximately 1/8 of the GWNF.

Under current proposals under consideration, this prescription area and other areas would be rolled into one huge 572,000 acre prescription area where increased levels of roadbuilding and logging would be permitted (FS Interdisciplinary Team meetings, Jan-Feb. 2010, plan documents March 2010).

Conservationists' have major concerns with this approach. There is a risk that if managers are given the discretion to increase logging and roadbuilding in former remote habitat areas, then these areas will be the very areas that are targeted for heavy logging and other disruptive activities, rather than areas that are closer to roads. In addition, closed roads in these areas may attract illegal motorized use, destroying whatever remote habitat value remains.

The FS should protect remote landscapes by assigning them to appropriate prescriptions that prohibit logging, roadbuilding, & mineral development.

Natural Heritage Areas

The Forest Service should fully all protect <u>all</u> conservation sites identified as special biological areas by the Virginia Division of Natural Heritage as well as other areas with natural heritage resources in the West Virginia portion of the GWNF.

Onc such site, the Peters Mountain North area (Alleghany County, Va.), warrants special attention because it contains an exceptionally large oak growth oak forest described by the Division of Natural Heritage as containing "one of the largest known occurrences of Appalachian oak forest in old-growth condition in Virginia and perhaps in all of the central Appalachians." (Apr, 2, '96 letter)

Some areas, including areas with significant old growth forest tracts, may have been omitted from protected prescription area designation.

The 6 candidate areas from the 1993 Plan and the Peters Mountain North special biological area should be considered as candidate research natural areas in this Plan Revision.

Invasive Species

The Forest Service should address the encroachment of non-native invasive species by eliminating corridors for these species. The best way to do this would be by closing unneeded roads and restoring remote interior forests.

Off-highway Vehicles
Illegal use of off-highway vehicles (OHVs) is a growing and serious threat to the health and future of the GWNF and should be addressed.

Energy Development. Developing natural gas and wind energy facilities can permanently alter ecosystems and the landscape of the GWNF.

Alternatives

As noted above, under NEPA, EISs must consider alternatives to the proposed action and federal agencies must "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." 42 U.S.C. § 4332(2)(C)(iii), § 4332(2)(E). Consistent with this statutory directive, the NEPA regulations require that

> Federal agencies shall, to the fullest extent possible: [u]se the NEPA process to identify and assess the reasonable alternatives to proposed actions that will avoid or minimize adverse effects of these actions upon the quality of the human environment.

40 C.F.R. § 1500.2(e) (emphasis added).

EISs must "provide full and fair discussion of significant environmental impacts and shall inform decisionmakers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment." § 1502.1. Adequate consideration of alternatives is the "heart" of the NEPA process because it defines the issues and provides a clear basis for choices among options by the decisionmaker and the public. § 1502.14. The Forest Service must "rigorously explore and objectively evaluate all reasonable alternatives. . ." § 1502.14(a). The failure to consider a "viable but unexamined alternative" will render a study inadequate. Dubois v USDA, 102 F.3d 1273, 1289 (1st Cir. 1996), cert. denied sub nom. Loon Mt. Rec. Corp. v. Dubois, 521 U.S. 1119 (U.S. 1997) (quoting Resources Ltd. v. Robertson, 35 F.3d 1300, 1307 (9th Cir. 1994)). Applying these principles requires that "[a]n agency must look at every reasonable alternative, with the range dictated by the nature and scope of the proposed action, and sufficient to

permit a reasoned choice." Idaho Conservation League v. Mumma, 956 F.2d 1508, 1520 (9th Cir. 1992).

The 1982 NFMA regulations also require the consideration of certain alternatives, see 36 C.F.R. § 219.12(f).

The EIS for the GW plan revision must consider a range of alternative ways of responding to or addressing the significant issues, including recommendations for wilderness designation, climate change, species viability, water resource protection, and the other issues listed above. We offer below some preliminary comments on the range of alternatives for the wilderness recommendations, climate change and species viability, and on the GW's remote alternative.

When considering a proposal to designate wilderness areas in a National Forest, the Council on Environmental Quality has explained that:

> "When there are potentially a very large number of alternatives, only a reasonable number of examples, covering the *full spectrum* of alternatives, must be analyzed and compared in the EIS. An appropriate series of alternatives might include dedicating 0, 10, 30, 50, 70, 90 or 100 percent of the Forest to wilderness." 46 Fed. Reg. 18026 (emphasis in original).

In California v. Block, 690 F.2d 753 (9th Cir. 1982), the Ninth Circuit found that the EIS for RARE II considered an inadequate range of alternatives because the Forest Service failed to "seriously consider an alternative that allocated more than a third of the RARE II acreage to Wilderness." Id. at 768. Although the EIS included extreme all wilderness, no wilderness, and no action alternatives, these alternatives were included as "points of reference rather than as seriously considered alternatives." Id. at 765. None of the other alternatives designated more than 33% of the RARE II acreage to wilderness. Id. The EIS should have considered designating as wilderness "a share of the RARE II acreage at an intermediate percentage between 34% and 100%." Id. at 766-67. The court also found the Forest Service skewed its alternatives away from wilderness without justifying the trade-offs it made. Id. at 768-69.

Therefore, the EIS for the plan revision must consider a reasonable range of alternatives for Wilderness designation. From the enormous pool of 378,229 acres in 37 areas[1] in the "potential wilderness inventory," the GW currently is proposing to recommend only about 20,000 acres for wilderness designation, in only one stand-alone area and three or four additions to existing wilderness areas.[2] This is only 5% of the areas evaluated for designation, a tiny fraction of those areas. Currently there are 42,674 acres of designated wilderness on the GW, or 4% of the

1,065,000-acre forest. Invty. & Eval. Working Paper at 25. The Forest Service's proposal would increase wilderness to about 62,674 acres or merely about 6% of the forest.

Only 6% of the Southern Region and 8% of the Southern and Eastern Regions combined are designated Wilderness. Invty. & Eval. Working Paper at 25. This is far below the national average of 18% of national forest lands designated as Wilderness. Although the GW's proposed recommendations would bring the GW in line with the average in the Southern Region, it would still fall below the average in Eastern forests generally. Moreover, Congress long has recognized the need to designate more wilderness in the East (see Eastern Wilderness Areas Act of 1975, Pub. L. No. 93-622, 88 Stat. 2096 (1975)), so the average 6% or 8% in the South or the East should not be viewed as an adequate benchmark. A range of alternatives that would recommend substantially more wilderness is needed.

We were glad to see the ?Emphasis on Remote Recreation and Remote Habitat Alternative."[3] This alternative starts to respond to public calls for substantially more wilderness and for protection of the Virginia Mountain Treasure areas, and starts to provide some alternatives and options for the decision-makers and public to choose among. However, by itself it cannot form an adequate range of alternatives.

The remote alternative would recommend a large amount of wilderness (200,000 acres, based on the GW's presentation at the recent public meetings). Another alternative that should be considered is one that tracks the robust, but somewhat more modest, proposals for wilderness, National Scenic Areas (NSA) and National Recreation Areas (NRA) offered by the Virginia Wilderness Committee (VWC) and by Friends of Shenandoah Mountain. Another alternative should be the Conservation Alternative mentioned abov. Although the remote alternative contains elements of those proposals (and we appreciate that and are very glad to see them there), it does not entirely track them.

Regarding the Mountain Treasure areas, we greatly appreciate the GW identifying an alternative that assigns the Virginia Mountain Treasure areas to some form of special management.

The remote alternative or a similar one also should be further developed in a way that contains more recognition of the ecological values of remote, intact areas, as well as their recreational values.

It is also important to develop an alternative or alternatives oriented around climate change resiliency and adaptation and around species viability and diversity. The remote alternative might be further developed and refined to respond to these issues or another alternative might need to be developed. For example, climate change planning should provide for and protect core refuge areas (such as the core reserves or matrix forest blocks identified by TNC, as well as any other large or strategically important, intact forest areas), connecting corridors, and any additional areas that are important for ecological diversity and function, such as Special Biological Areas. Climate change planning should take into account the GW's ecologically significant role within the Central or Southern Appalachians.

In another example, it is not yet clear from the ecosystem and species analysis information whether the GW's proposed approach is likely to maintain or improve species viability and diversity. As these climate and species diversity and viability issues are analyzed in the EIS, responsive alternatives, including ones that would maximize climate change resiliency/adaptation and species diversity/viability, should be developed.

We look forward to commenting further on this alternative and others as they are fully developed.

GW staff have asked whether the public is interested in participating in meetings in June about alternatives. We generally believe the Forest Service should make the forest planning information that it has available to the public, so the public can understand where the agency is in the planning process and can comment on the agency's information and the direction the agency is heading with the revision, and should encourage public participation. We did disagree with the GW's approach to the NOI, however, because we believed that even the internal development, as well as the public proposal, of a virtually complete draft plan was premature and bypassed the proper scoping, environmental analysis, and planning processes. Going forward, it probably would be useful to have public input on the concepts or basic parameters behind the alternatives to be analyzed and it might be possible to accomplish that in June. However, we cannot see how the GW staff will have completed enough of the environmental analysis by next month to present and compare alternatives in detail. Some alternatives might require a level of analysis not possible by June, for example, alternatives oriented around climate change or species viability. So, opportunities for additional, preliminary comment on somewhat more fully developed alternatives may be needed before solidifying those alternatives in the draft plan and EIS published for the 90-day comment period. Overall, going forward the GW should avoid perpetuating the problems with the planning process thus far, as discussed above.

. The Forest Service has proposed the functional equivalent of a draft revised forest plan, potentially preempting, constraining and violating the NEPA and NFMA processes for environmental review, forest planning, and decision-making.

Taken together, the draft documents made available with the NOI on the GW's website form the functional equivalent of a draft revised forest plan. Not only has the Forest Service apparently already concluded what needs to change and identified the significant issues that will drive the revision, the agency has developed a highly detailed draft revised forest plan, complete with: forest-wide desired conditions, standards and guidelines; draft management prescriptions, also with desired conditions, standards, guidelines, suitability for various uses, and acreages allocated and mapped; land suitable for timber production identified and mapped; and recommended wilderness areas identified and mapped. Detailed maps of the proposed alternative and the other alternative (remote recreation and habitat) are posted to the website and were available at the recent public scoping meetings.

This essentially is the draft revised plan (or perhaps a somewhat fleshed out version of that draft) that was developed last year under the now-invalidated 2005/2008 National Forest Management Act (NFMA) regulations and almost released right before the 2008 rule was enjoined. Yet now the GW plan is to be revised under the substantively different 1982 NFMA regulations, an EIS will be prepared, and the Forest Service will consult formally with the U.S. Fish and Wildlife Service (FWS).

The current proposal was not developed under or to comply with the different (and more environmentally protective) substantive provisions of the 1982 rule, including the requirements to: maintain viable, well-distributed populations of fish and wildlife species; identify and monitor management indicator species (MIS); provide for diversity of plant and animal communities and tree species; and identify land unsuitable for timber production based on various factors laid out in the 1982 regulations, including economic cost. As discussed further below, it is not at all apparent that the proposal meets these substantive requirements, because we cannot see where the GW has documented analysis of them.

Moreover, additional or different needs for change or significant issues may be prompted by these or other aspects of the 1982 rules, by the EIS analysis, or through consultation with FWS. For example, the GW's proposal was developed without ever fully analyzing climate change issues. Although the NOI lists climate change as an issue previously identified, to our knowledge it was not analyzed at all prior to the January 2009 proposal upon which this draft is based and climate change considerations never have driven the proposed management objectives and land allocations, at least not to any significant degree. Now that an EIS will be done, climate change will need to be analyzed and considered, and alternatives should be developed to address it.

From a procedural standpoint, this draft was not developed according to the NEPA EIS process and to the 1982 NFMA regulations' forest planning process. These processes should be concurrent where possible, and the alternatives developed and proposed (draft) revised plan should be a product of those analyses, which the current proposal is not.

This detailed proposal puts the "cart before the horse" of the NEPA analysis and decision-making process, circumventing the NEPA process of scoping, identifying and analyzing the issues, developing alternative ways of addressing them, making that analysis available to the public for informed comment, and then making decisions based on all of that information. See 40 C.F.R. § 1500.2(c) ("Integrate the requirements of NEPA with other planning . . . so that all procedures run concurrently rather than consecutively."); § 1501.2 ("integrate the NEPA process with other planning at the earliest possible time to insure that planning and decisions reflect environmental values, to avoid delays later in the process, and to head off potential conflicts. . . . Environmental documents and appropriate analyses shall be circulated and reviewed at the same time as other planning documents."); § 1501.7 ("There shall be an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action. . . . As soon as practicable after its decision to prepare an [EIS] and before the scoping process the lead agency shall publish a notice of intent. . .."); § 1502.5 ("The [environmental impact] statement shall be prepared early enough so that it can serve practically as an important contribution to the decision-making process and will not be used to rationalize or justify decisions already made. . ..").

The analysis of environmental effects "forms the scientific and analytic basis for the comparisons" of alternatives, which is the "heart of the environmental impact statement" and "should present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public." § 1502.14; § 1502.16. The GW has not yet analyzed environmental effects or developed and seriously considered any alternatives. The one alternative presented to the public to date is the extremely sketchy, factually inaccurate 4-page "More Emphasis on Remote Recreation and Remote Habitat Alternative" and its map (discussed further below), which were offered for the first time along with the numerous other documents posted to the website with the NOI.

The GW's approach also circumvents the NFMA forest planning process, which includes steps that build on one another, such as the analysis of the management situation (AMS) (discussed further below), the formulation of alternatives according to NEPA and to certain criteria in the NFMA regulations, the analysis of their effects, evaluation of alternatives, and then the recommendation of a preferred alternative and the proposal of a revised plan, with public participation throughout. See 36 C.F.R. § 219.6; § 219.12. The GW has bypassed all of this and gone straight to proposing a revised plan.[4]

In early February, before the NOI was released, The Nature Conservancy and several other organizations, including SELC, wrote to the GW's Planning Staff Officer expressing our concerns with the idea of releasing a highly detailed proposal with the NOI. See Letter from The Nature Conservancy, et al. to Ken Landgraf, GWNF (2/5/2010). Our concerns then were two-fold: (1) we believed it was premature to develop a virtually complete draft plan without analyzing as-yet unaddressed issues (e.g., climate change), new obligations presented by the 1982 regulations (e.g., species viability), and environmental impacts and alternatives, and (2) we feared that the release of such a highly detailed proposal would constrain public scoping comments and future Forest Service planning. All of those concerns are only heightened now that the GW has released what essentially amounts to a draft plan – a set of even more detailed proposals than we anticipated in February.

The GW's March 25, 2010 Update attempted to backpedal, stating that the primary objective for this comment period is to identify significant issues and alternatives to drive the analysis that will be done in the EIS. The Update seemed to attempt to deflect attention from the detailed draft plan. This cannot repair, however, the problems with the GW's premature development and release of a draft plan.

We continue to believe it likely that the public naturally and inevitably will narrowly focus on responding to the proposals and information provided, thereby constraining public input, precluding both the identification of additional issues and, perhaps even more importantly, the development of alternative ways of addressing the issues identified, and essentially limiting environmental analysis and plan development to the current proposal.

Similarly, the Forest Service obviously has invested significant time and resources in this draft. We are concerned that the Forest Service will become attached to and entrenched in it, reluctant to rethink analyses which seem complete but were first performed under the auspices of other regulations or under another administration's policies, to fully assess new, unaddressed or incompletely addressed issues, or to seriously consider major changes to work the Forest Service may be invested in and view as almost finished. It will be extremely important for the agency to be willing to make the tough choices to revisit issues, address new issues, meaningfully and serious consider a range of reasonable alternatives, and make changes to its proposals based on the results of the environmental analysis or on the requirements of the 1982 rule. While information previously obtained in the planning process may still be useful, the 1982 rule and the EIS analysis must inform and lead to the development of alternatives and to a proposed revised plan, rather than attempting to retrofit previous analyses to justify outcomes already settled on internally.

The NEPA (and NFMA) processes are designed to prevent this type of *post hoc* analysis and to inform and lead to better decisionmaking, but that cannot happen if the process is short-circuited and decisions already have been made internally. See

40 C.F.R. § 1500.1(b) ("NEPA procedures must insure that environmental information is available to public officials and citizens before decisions are made. . ..."); § 1500.1(c) ("Ultimately, of course, it is not better documents but better decisions that count. . . . The NEPA process is intended to help public officials make decisions that are based on an understanding of environmental consequences, and take actions that protect, restore and enhance the environment."); § 1502.1 (An EIS "is more than a disclosure document. It shall be used by Federal officials in conjunction with other relevant material to plan actions and make decisions."); § 1502.2(g) (EISs "shall serve as the means of assessing the environmental impact of proposed agency actions, rather than justifying decisions already made."); § 1502.5 ("The [environmental impact] statement shall be prepared early enough so that it can serve practically as an important contribution to the decision-making process and will not be used to rationalize or justify decisions already made. . ..").

To use climate change as an example, now that the GW will prepare an EIS, the GW can and should fully analyze the likely effects (or range of effects) of climate change on the forest and consider alternatives that would improve the GW's ecosystems' resiliency and ability to adapt to them. We are glad to see the Summary of the Need for Change recognize that climate change is a developing issue that will require more attention. A climate change-oriented alternative might be quite different from the revised plan currently proposed. The GW must be willing to take a hard look at this issue and seriously consider such an alternative. The same can be said for fish and wildlife species population viability.

We are very concerned that all the planning information and draft documents released with the NOI are so strongly geared towards the GW's proposal, particularly at this early NOI stage. For example, it is telling and concerning that the GW is calling its proposal/preferred alternative the "Need for Change Alternative." This easily could suggest to the general public that other alternatives, such as the remote recreation and habitat alternative and hopefully other alternatives which will be developed, do not respond to the Forest Service-identified need for change or are not based on the agency's analysis, implying they are second-class or "out of the blue" alternatives, when instead those other alternatives represent different ways of responding to agency- and public- identified issues or needs for change. We are concerned that this approach to the alternatives will prevent serious consideration of other alternatives by both the public and the Forest Service.

Further, it is disturbing that, before conducting the environmental analysis in the EIS, the Forest Service has already made certain conclusions about environmental impacts. For example, the agency has concluded that forest fragmentation and road density are not significant concerns. See Summary of Need for Change at 2 (Mar. 2010); Draft Evaluation of the Need for Change at 5 (Mar. 2010). The EIS should assess the effects of forest fragmentation and of the road system (open and closed roads) on terrestrial and aquatic species, including effects of sedimentation from open and closed roads on water quality and aquatic species. The conclusions of the draft CER are absolutely no substitute for those reached in a proper EIS, which must meet certain basic NEPA sideboards for adequate analysis, disclosure and consideration of scientific information, including different points of view. See, e.g.,

40 C.F.R. § 1500.1(b) (high-quality information, accurate scientific analysis, expert agency comments, and public scrutiny are essential); § 1502.1 (EISs "shall provide full and fair discussion of significant environmental impacts"); § 1502.9(a), (b) (agencies shall make every effort to disclose and discuss in draft EISs "all major points of view on the environmental impacts").

Moreover, the GW plan now will be revised under the 1982 NFMA regulations, which are substantively different from the 2005/2008 rules under which the revision was begun and this draft developed. All of the analysis performed to date and posted to the GW website, such as the ecosystem and species diversity reports and the aquatic sustainability analysis, explicitly is based on those now-invalidated 2005/2008 rules. The analysis is framed around the "sustainability" concept of the 2005/2008 rule, not the very different diversity and viability provisions of the 1982 rule. Now the 1982 rule applies, an EIS will be prepared, and the Forest Service formally will consult with the FWS regarding threatened and endangered species. The Forest Service will need to be very careful to prevent this plan from being tainted by the illegal provisions of the 2005/2008 rule. For example, the 1982 rule's viability and other requirements must be fully embraced and met.

The GW will need to be very open-minded to changing its proposals, and all further planning must be well-grounded in the NEPA environmental analysis and in the procedural and substantive requirements of the 1982 NFMA regulations. As it stands now, the draft appears to be a freestanding, predetermined proposal/outcome that was not developed based on the required process, analyses and factors laid out in NEPA and NFMA and their regulations. If the GW continues to rush down the track towards this proposed plan, the plan may violate the NEPA and NFMA provisions cited above and be arbitrary and capricious, see Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43 (U.S. 1983) (agency decision arbitrary and capricious if agency did not examine relevant data and factors, relied on improper factors, or entirely failed to consider important aspect of problem).

We incorporate the section of Southern Environmental Law Center's May 2010 Plan Revision comments entitled "Roadless Area Inventory, Protection, and Evaluation for Wilderness Recommendation" into this letter.

Wood Turtle Virginia's Wildlife Action Plan states that the Forest Service needs to alter its forestry practices to protect the **Wood Turtle** (see VDGIF 2005, available at http://www.bewildvirginia.org/wildlifeplan/plan). The September 2006 FEIS for West Virginia's Monongahela National Forest states: "The commenter states that wood turtles require mature or old growth forest habitat and that recently logged areas are not good habitat for this species. We generally agree with this contention . . ." (MNF FEIS I-126)

"Conservation Actions and Strategies Species-specific actions that are necessary for wood turtle conservation include better enforcement and prosecution of capture

laws (wood turtle is protected from all unpermitted take by virtue of its State threatened status) (Herpetofauna TAC 2004). In addition, USFS should be engaged in revising forestry practices in areas inhabited by the wood turtle, and they (and NPS) should restrict recreational activities in these areas (Herpetofauna TAC 2004)." (VDGIF 2005)

"Coordinate with Forest Service to identify Best Management Practices to protect wood turtle sites on their land. Habitat loss due to development is a severe problem for this species and developers need to be encouraged to follow Best Management Practices when working." (WVDNR 2005)

Wood Turtle population locations need to be protected from logging, burning, road construction, and mineral development, as well as some recreational activities. In the absence of allocating and strictly protecting these sites as "special areas", then meaningful protections (Guidelines, Standards, etc.) need to be in place to restrict the aforementioned harmful activities from occurring within the Turtles' core habitat.

The attenuated streamside buffer zones (the terrestrial habitat 33-100 feet from the stream) normally applied by land management agencies such as the Forest Service, as well as private entities, are simply inadequate for protecting Wood Turtle populations and their habitat.

Traditionally, the application of riparian buffers has been done in order to protect water quality and aquatic habitat and populations. However, it is crucial to recognize and address the fact that riparian zones are not just buffers for aquatic habitat, but are themselves part of the core habitat for various taxa, including Wood Turtles. So the riparian areas themselves not only need to be fully protected, but also buffered as well. This is a cogent reason for making strictly protected wetland buffer areas as wide as possible. See Crawford, J.A. and R.D. Semlitsch 2007, Semlitsch, R. D. and J. R. Bodie 2003, Burke, V.J. and J.W. Gibbons 1995, and Wenger, S. 1999.

Wood Turtles roam across a mosaic of habitats and therefore our conservation efforts must be expansive in scope. "[T]here are individuals that consistently wander great distances (up to 3 km from a prior winter hibernaculum in Virginia) beginning in mid-May and continuing through late August or early September. It is also likely that most adult individuals roam up to 1 km from the home creek in search of optimal foraging habitat at some point during the summer. (VDGIF VFWIS 2004)

Site-specific boundary justification information for designating special protected areas or mitigation buffers in Virginia and West Virginia is provided by the studies of Dr. Thomas Akre upon the Wood Turtles on the GWNF. The evidence shows that the mean maximum of turtles' range from streams here is 350 meters (about 1050 feet) and the maximum distance is 650 meters (about 2,145 feet). See Akre and Ernst 2006.

For the above reasons, the boundaries for designating special biological areas and/or strictly protected buffer zones should generally (depending on topography, habitat type, and land use) encompass those areas within 300-600 meters of both sides of the occupied waterway. In this way habitat critical to all their life history needs is included (see Burke, V.J. and J.W. Gibbons 1995).

B. Compton *et al* who studied Wood Turtles in Maine suggested that buffer zones

300 meters in width from large wetlands, rivers, and streams would enclose 99% of Turtle locations (Compton, B.W., J.M. Rhymer and M. McCollough. 2002. Habitat selection by Wood turtles (*Clemmys insculpta*): an application of paired logistic regression. Ecology 83: 833-843). For a similar recommendation in a different habitat and forest type see M. Arvisais *et al*, 2002: "The wood turtle is easily disturbed and has only a moderate tolerance to human perturbations (Harding and Bloomer 1979; Harding 1991; Garber and Burger 1995). . . . Recruitment is low in *C. insculpta* and survival of the species depends on low levels of adult mortality. Kaufmann (1992) reported annual recruitment as low as 1%, so even the smallest additional mortality could jeopardize the survival of wood turtle populations. Human disturbance induces mortality in wood turtle populations (Garber and Burger 1995). The establishment of protected buffer strips on each side of streams used by wood turtles would significantly contribute to the conservation of wood turtle populations." (Arvisais, M. *et al*, 2002, "Home range and movements of a wood turtle (*Clemmys insculpta*) population at the northern limit of its range," Can. J. Zool. 80: 402–408.)

Shenandoah Mountain (*Plethodon virginia*) and **Big Levels (*P. sherando*) Salamanders**. Both have limited ranges, with the BLS being virtually endemic to the GWNF. **These species' habitats need to be strictly protected**.

"The Shenandoah Mountain Salamander occurs in mixed deciduous forest interspersed with Virginia pine and hemlock in which there are numerous rock outcrops." (WV Wildlife Plan 5E – 31) It has been found on South Branch and Shenandoah Mountains. It "coexists with the Cow Knob Salamander." (id. at 32)

Pine Snake (*Pituophis melanoleucas*). This snake should be recognized as a species of concern. The Pine Snake may occur at various sites in this planning area, including potential cutting and roading sites as they contain suitable habitat. (See Mitchell, J.C., 1994. The Reptiles of Virginia. Smithsonian Institution Press, Washington D.C. 352 pp. incorporated by reference) Virginia and this project area are within the known range of this species. They are recorded from Augusta, Bath, Botetourt, Rockingham, Highland, and Allegheny counties (*id*. and Mitchell and Reay 1999). This species is one of the most rarely encountered reptiles in Virginia (see VDGIF at http://www.dgif.virginia.gov/pinesnake/pinesnake-observation.asp). Intensive ground disturbing activities (*e.g.,* logging and road building) commonly occur in the Snake's suitable habitat on the Forest: "the habitat is dry, open, and on mountain slopes, ridges, or hills, sometimes with abundant rock cover." (Mitchell 1994) Such management operations may harm Pine Snakes or their habitat; for example, by compressing the substrate the Snakes burrow into.

This species' habitats need to be strictly protected. **The revised Plan must explicitly address the potential for project implementation to result in significant impacts (direct, indirect, and/or cumulative) to the distribution and/or viability of the Pine Snake**. **The revised Plan must ensure that special aquatic surveys needed to detect the Pine Snake occur at project areas where there is suitable habitat.**

Coal Skink (*Eumeces anthracinus*).
The Coal Skink may occur at various sites in this planning area, including proposed cutting and roading sites as they contain suitable habitat. (See Mitchell, J.C., 1994. The Reptiles of Virginia. Smithsonian Institution Press, Washington D.C. 352 pp.

incorporated by reference)

Virginia and this project area are within the known range of this species. The VDNH records their presence in Rockingham and Allegheny counties and the Forest Service has found them on National Forest lands in Augusta county (see, e.g., GWNF Deerfield RD Farrow Hollow and Chestnut Oak Knob timber sale EAs, incorporated by reference).

Coal Skinks are listed as a "Sensitive" species in the 1993 GWNF LRMP and FEIS; they are also considered "Locally Rare". In fact, they are considered to be "very rare and imperiled" in Virginia (see GWNF Deerfield RD Farrow Hollow EA-40, incorporated by reference). They have only been found occurring at a very limited number of places in the state, and Forest. Therefore, given these facts and their known presence here, their viability should be a relevant, even significant, concern for the planners here.

It is not apparent that the Skink are actively and sufficiently searched for at project sites, nor that the agency adequately consider impacts to them.

The Forest Service's claim that negative impacts to the tiny lizard would not result due to their "general mobility of the species" (see GWNF Chestnut Oak Knob EA-35) is objectionable. There is no evidence or substantiation of this assertion. In fact, it runs counter to known herpetological research. Such creatures can be expected to have tiny home ranges. And they cannot reasonably be expected to vacate a site of ongoing logging disturbance and run to a nearby stand.

Their life history requirements and characteristics greatly restrict their abilities to avoid disturbance activities or "recolonize" areas. So the MIS (*viz* ., black bears, white-tailed deer, turkeys, pileated woodpeckers, ovenbirds, and worm-eating warblers) and other birds referred to in EAs are of limited, even misleading, use for gauging impacts to site-sensitive salamander or coal skink populations (and because of their limited distributions, the current salamander MIS apply to only a small portion of the Forest).

Operations could severely harm them on site by altering habitat. This alteration may result in higher ground floor temperatures, or change in the moisture regime, or mortality to or diminishment of their prey. Such changes could result in presently occupied sites becoming unsuitable. This could significantly effect their distribution or viability. There is no full and fair analysis of this. Logging operations would severely harm them on site by resulting in direct mortality. These are very small creatures that are extremely vulnerable to being mortally injured or maimed by heavy machinery or falling trees. Hiding under leaves or bark or small rocks does not provide protection from the overwhelming weight of machinery or trees.

The Skinks are very small ectotherms. They are not endotherms such as birds or deer that can swiftly move long distances. They are not physically or physiologically capable of very much mobility. The speed or distances with which they are capable of moving are in no way allows them to avoid logging operations spread over many acres or to avoid the speed of motorized equipment or falling trees. And the Skinks ability to exhibit mobility by hiding under leaf litter and debris on the ground does not protect them from the crushing weight of machinery or trees.

This concern is particularly important given the intent to destroy, degrade, or

fragment Skink habitat on the Forest (such as the mature forest, ground floor, and rocky areas) and this species' low dispersal abilities. Populations could be centered, perhaps even be only found at, the particular places targeted for intense manipulation. They have very small home ranges with limited abilities of mobility and dispersal. They are susceptible and vulnerable to severe site-specific harm.

This species' habitats need to be strictly protected.

Cerulean Warbler.

The Cerulean Warbler (*Dendroica cerulea*) is known to occur in the Appalachians of Virginia and on the GWNF, including Shenandoah Mountain. Populations of the Warbler have declined precipitously. The latest Breeding Bird Survey data and analysis show a continued and serious decline in Cerulean Warbler populations throughout its range. According to the most recent BBS numbers, since 1966 Ceruleans have declined by 90% or more in Virginia. Populations on the GWNF are not in the core of the species range, thus are more vulnerable to extirpation.

This neotropical migrant is an area-sensitive species associated with large tracts of mature and old-growth deciduous forest. Many tracts allowed for cutting on the Forest are mixed mesic and oak forests of the forest types where Cerulean Warblers are known to occur.

Old growth supplies conditions favored by Cerulean Warblers. These include relatively open ground-floor conditions and multiple canopy layers, as well as large-diameter tall trees forming a high percent of crown closure and canopy openings from natural disturbance. They are destroyed, removed or modified by logging operations. **Old growth is the condition that should be promoted on the Forest in the Warblers' range**, not logging schemes that are of no proven benefit to the Warblers, as well as to a host of other species.

Rattlesnakes (*Crotalus horridus*). This is a species of viability concern on this Forest and elsewhere throughout its range (see, *e.g* ., 2003 JNF DEIS at Appendix E). See Reptiles of Virginia by Joseph Mitchell, and "The Timber Rattlesnake: Its Distribution and Natural History" by W.H. Martin in *Conservation of the Timber Rattlesnake in the Northeast* published by the Massachusetts Audubon Society, incorporated by reference. The Timber Rattlesnake should be a "species of concern".

The proposed logging operations could significantly affect their distribution and mortality (road kills and crushing, increased motorized use, draw more people to area, habitat displacement, etc.). Road construction/reconstruction or opening/improvement would be a very bad idea for them and may significantly worsen their security and viability. Projects commonly occur at the time (Spring and Fall) of the denning season, when the Rattlers are closeby their overwintering den sites. Den sites are known to occur at elevations such as those at project sites (see, e.g., "2200-2700 feet" BE-2 for the WSRD Open Trail TS).

Den sites are ecologically critical areas, like bird rookeries or Indiana Bat hibernacula. The snakes are even more vulnerable because unlike birds and bats they cannot fly away. There is a clear need to establish the locations of hibernacula

and what the species' status is on the Forest. Harm to a relatively small area could actually affect an area or population for miles around. If entire cutting units are not dropped, then the den areas should have a 1/4-mile radius no-disturbance buffer.

This species uses "rock outcrops and cliffs" and is a species of concern in the new JNF Plan (see JNF DEIS at E-1 & 4). There are large rock outcrops and scree slopes at numerous project areas. Trees in cutting units are often marked w/ paint right in the scree and all around the rocks; see, *e.g* ., the Lee RD Laurel Road TS and WSRD Open Trail TS. A Rattlesnake den may be closeby or in "unit" 2 that may be used by many snakes for miles around.

Individuals of this species congregate in concentrated areas (*i.e* ., den sites) during the winter and immediately pre- and post-hibernation. Many snakes may travel from a wide area (from 2.5 miles away and more) when migrating to one of these overwintering sites. Populations and individuals are especially vulnerable to direct and indirect disturbance during these denning times. Because of their concentrated distribution at these times, disturbance to a relatively small area can thus have impacts to population viability reaching far beyond the size of the "project footprint" itself. And destruction of an ancestral den sight or disturbance to its surroundings, even if the snakes are not there or are not directly killed, could affect their future survival as another suitable site in the surrounding area might not be known to or available to them.

Specific project sites, and "cutting units" themselves, may even harbor den sites or be part of a "den colony".

The Forest Service should consult with Timber Rattlesnake researcher W.H. Martin of Harpers Ferry, WV (304-876-3219) for expert input about this aspect of the Plan.

Population Inventory Data:

"When adequate population inventory information is unavailable, it must be collected when the site has a high potential for occupancy by a threatened, endangered, proposed, or sensitive species." See Std. 240 at GWNF LRMP 3 - 149.

To maintain the Forest's diversity, communities, and sustainability, the Forest Service/revised Plan must adhere to this directive to collect population inventory data on sensitive plant and animal species. This standard/guideline should be revised to read "When adequate population inventory information is unavailable, it must be collected when the site has a high potential for occupancy by a threatened, endangered, proposed, sensitive, or locally rare species, or species of concern."

Contrary to the Plan, however, the Forest Service has failed in the past to collect and maintain adequate population inventory data on PETSLR species in

proposed project areas. The DCER and DLRMP fail to adequately, properly, and clearly address this issue/concern.

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Many GWNF Mountain Treasures are excellent potential Wilderness Areas. The FS must evaluate in detail as potential Wilderness all the Treasures during this revision. I particularly want to bring to your attention Scaffold Run, Big Ridge, Paddy Lick, West Back Creek Mountain, Back Creek Mountain, Little Mare Mountain, Warm Springs Mountain, Short Mountain, Longdale, Fore Mountain, Toms Knob, Snake Run Ridge, Slatey Mountain, Jerrys Run, Adams Peak, Whites Peak, Signal Corps Knob, Benson Run, Archer Knob, Sideling Hill, Walker Mountain, Hankey Mountain/Trimble Mtn., Shaws Ridge, Beech Lick Knob, Hogpen Mountain, Little Cow Knob, Wildcat Ridge, Feedstone Mountain, Dunkle Knob, Kretchie Mountain, Jonnies Knob, Big Schloss (such as at Little North Mountain and north of Halfmoon Mountain), Great North Mountain (on Lee RD), Falls Ridge, Church Mountain, Catback Mountain, and Signal Knob, as well as all of the roadless areas inventoried in the 1993 Plan EIS.

In addition, please examine the **Big Ridge** area on the WSRD. It is found south of FDR 258 (Ruckman Draft road), west of rt. 600, north of rt. 84, and east of the stateline (or FDR 55 on the MNF). This area's hydrologic unit is Back Creek of the James; see the USGS quad map "Paddy Knob". The Mourning Warbler, Yellow-bellied Sapsucker, and Red Raspberry are known from this HU/Q. It includes Little Ridge and Sorrel Pt. Ridge, with elevations from 2000' to 4000' asl. Some contiguous unroaded lands (~ 1000 acres) are in the Monongahela NF. Due to the rugged terrain of the steep narrow drainages, small pockets of old growth have been protected from resource extraction. This tract is currently allocated to MA 14. Big Ridge includes significant amounts of SPM2 acreage.

In addition, please examine the **Bear Wallow** area on the JRRD. This area is northeast of Rich Patch, west of rt. 633, and is mostly in Botetourt county. It is the northern extension of the Rich Patch Mountains and includes Shirkey Mill Branch.

The **Scaffold Run** area would make an excellent Wilderness. It is located in one of the most remote areas in the East (based on distance from 4-lane roads, the low population density of the surrounding counties, and the high proportion of public lands nearby); also see the map "Earth at Night" produced by the National Geographic Maps for National Geographic Magazine, November 2004. Scaffold Run lies at the heart of the Central Appalachians with rugged mountainous terrain all around. The Mountain Treasure is of substantial size (6611 acres) and there is large tract of contiguous unroaded lands (*ca* . 3000 acres) on the adjacent Monongahela NF in West Virginia.

Toms Knob is an excellent Wilderness candidate. It is adjacent to Barbours Creek Wilderness on the JNF and is well away from major roads and communities. It is of large size (7879 acres) and has a large area of what should be considered SPNM lands. Along with the two adjacent JNF WAs, protection of Toms Knob would provide an excellent complex and draw for recreational visitation to Allegheny and Craig Counties.

Dry River is another Treasure that would make an excellent Wilderness Area. This very large area (12,939 acres) occupies the steep western slopes of Shenandoah

Mountain in West Virginia adjacent to the stateline. Together with the contiguous 5,703 acre Skidmore Roadless Area in Rockingham co., Virginia, a Wilderness Area of almost 20,000 acres is possible here. Dry River contains significant tracts of old growth. Two rare amphibian species occur here, the Cow Knob and Shenandoah Mountain Salamanders. Black Bears also find remote habitat here.

The Dry River Roadless Area currently inventoried by the Forest Service is *ca.* 7300 acres in size. However, the Dry River Roadless Area was 16,135 acres in the 1978 RARE II inventory. **So over the years, the FS has diminished the area by 55%.** The Forest Service has conducted multiple road building and logging projects on the lower elevations. A full 52 % of the present Roadless Area (around 3800 acres) is currently "available for development". The Forest Plan allocates the upper portion of Dry River to Management Area 4 "Shenandoah Crest Special Interest Area" ("unsuitable" for timber production), with the lower slopes in Management Area 15, "Mosaics of Wildlife Habitat". The great majority of this MA 15 acreage is considered to be "suitable for timber production using even-aged management", *i.e* ., clearcutting and its variants. The diminishment and degradation of Dry River need to stop under the revised Plan.

Little Mare Mountain is another Treasure that would make an excellent Wilderness Area, particularly the northern portion above road 125-5. This is a very large area (12,587 acres in total) that is buffered by a large TNC preserve and other GWNF lands. It is located away from major communities, but closeby a State Park (Douthat). Its environs of Bath County are heavily forested and have a low human population.

Big Schloss/Great North Mountain is certainly an excellent wilderness candidate. This is one of the largest roadless areas in the east (the two contiguous Mountain Treasures total 37,885 acres). This Treasure epitomizes the Forest Service's failure to protect roadless areas administratively. Roadless Areas on the GWNF previously inventoried in 1978 as part of the "RARE II" analysis have been significantly diminished in size or damaged to the point that the Forest Service no longer considers them to be roadless. The Big Schloss area of the GWNF was 36,526 acres in RARE II, including the contiguous Great North Mountain area. But according to the 1993 inventory for the GWNF FEIS, its acreage has been whittled down to 20,755 (a decrease of over 40%). This area contains outstanding recreational opportunities as well as outstanding and diverse ecological attributes. It is at the far north of the GWNF so is within closer driving distance of Eastern metropolitan areas.

Dunkle Knob is another excellent Wilderness candidate. The DK Mountain Treasure encompasses a series of knobs on the west flank of Shenandoah Mountain north of US Rt. 33. Includes Dug, Whetmiller, Round, Dunkle, and Brushy Knobs; also Dice, Wagner, Stony, and Hawes Runs. Elevations range from 1900' on the west to 3500' asl on eastern boundary. Beautiful waterfalls and tracts of old growth can be found. The area is characterized by a diversity of vegetation with a variety of forest types, some very rare on the Forest (unfortunately cut when the Forest Service decided to implement the Dice Run timber sale here in 2003). Most of this area is allocated to MA 14, with some upper elevations in MA 4 (Shenandoah Crest Special Biological Area). Excellent remote habitat for Bears is available here, as well as habitat for the rare Cow Knob (or White Spotted) and Shenandoah Mountain Salamanders.

Other excellent Mountain treasure areas to recommend as Wilderness include Laurel Fork, Beech Lick Knob, Skidmore Fork, Little River, Ramseys Draft

Addition/Lynn Hollow, Crawford Mountain, Benson Run/Jerkemtight, Little Allegheny, Rough Mountain Addition, Rich Hole Addition, Snake Run Ridge, Oliver Mountain, St. Marys Addition, Adams Peak, and Three Sisters.

Congress has strongly and clearly expressed that the Forest Service should not use this "sights and sounds" criteria to identify potential Wilderness areas.

In recent years, scientists, land managers, and policy makers have become more aware of the importance of landscape "representation" to conserving biodiversity. One way to examine the adequacy of representation is the inclusion of representative samples of naturally occurring ecosystems in the National Wilderness Preservation System. Only about 2% of the land area in the continental United States is protected as Wilderness; the situation in Virginia is even worse, with a mere 0.8% of the state represented as Wilderness.

Under the Bailey ecosystem classification regime, the GWJNF is part of the ecoregion called the "Central Appalachian Broadleaf Forest - Coniferous Forest - Meadow Province". The area of this province is approximately 43,600,000 acres, which is 2.3% of the conterminous U.S. land area. Only 0.6% of the province is presently protected as Wilderness. And though the province represents 2.3% of the U.S. land area, it only contains 0.6% of the National Wilderness Preservation System. The Wilderness-to-province-area ratio of less than 1 (*viz* ., 0.26) indicates that this ecoregion is under-represented in the National Wilderness Preservation System and not well protected (see Loomis and Richardson at pp. 20-23 [TWS, 2000]; also Cordell).

The majority of the GWJNF can also be described as part of the "Ridge and Valley" physiographic or geomorphic Province of the Appalachians. This region, stretching from Pennsylvania to Alabama, is approximately 29 million acres in size. At present only around 73,000 acres, or less than 0.3%, of this area is protected as Wilderness.

And of the entire 37 million acre "Southern Appalachian" region, only 1.1% (428,000 acres) is currently designated as Wilderness, with another 3.3% as roadless acreage (see SAMAB SAA Social Technical Report at 178-82).

The GWNF planners must fully and fairly, qualitatively and quantitatively evaluate this issue of landscape representation and Wilderness recommendations.

Protecting roadless areas also furthers the goals of Virginia's 2005 wildlife plan, which identified habitat destruction and fragmentation among the top 10 threats to terrestrial species and recommended conserving mature forests, maintaining large patches of habitat, and improving links between habitats. Va. Dept. Game & Inland Fisheries, Virginia's Comprehensive Wildlife Conservation Strategy (CWCS), pp. 3-27-28, 10-2-3, available at www.bewildvirginia.org/wildlifeplan/virginia-wildlife-action-plan.pdf .

Wilderness

Only around 5% of the GWNF land base (about 55,000 acres) is currently designated as Wilderness - 84.

The FS must clearly and positively respond to the vast public support for and desire for more Wilderness Areas on the Forest by recommending a significant amount of acreage as Wilderness.

ZOGBY POLL ON WILDERNESS

From The Campaign for America's Wilderness

For Immediate Release: July 21, 2008
Contact: Susan Whitmore (202) 266-0435

See summary of the polls at http://www.leaveitwild.org/news/releases/1124 (July 2008)

Vast Majority of Americans Believe Protecting Wilderness is Important

More than seven in ten likely to vote for presidential candidate who supports wilderness protection

Washington, DC – Nearly nine in ten Americans believe that protecting public land as part of the National Wilderness Preservation System is important, according to a new Zogby International poll of 1039 likely voters across the country. These voters view as "very important" (57 percent) or "somewhat important" (30 percent) the protection of publicly owned land as wilderness, leaving it just as it is. The support cuts across political parties, regions, age groups, and ethnic and religious backgrounds. Twelve percent said it was not important to protect the nation's wilderness.

When likely voters were asked whether they would vote for a presidential candidate who strongly supported wilderness protection of public lands, 71 percent said they were "likely" to do so. Less than two in ten (19 percent) said they were "not likely to." A clear majority of Democrats (93 percent), Republicans (81 percent) and those who identified themselves as Independents (88 percent) say they think protecting public land as part of the National Wilderness Preservation System is important to them.

"What this polling confirms is that support for protecting public land as part of the National Wilderness Preservation System is broad and deep across every region of the country," said Mike Matz, executive director of the Campaign for America's

Wilderness, a public-interest organization that commissioned the poll. "Americans understand that some places are irreplaceable and their value for wildlife habitat, importance for clean air and water, and opportunity as recreation sites are too important to sacrifice to development."

A Zogby International poll of 1001 likely voters across the country in 2003 found that a strong majority (65 percent) of Americans favor designating more land as wilderness in their own state, support that also cut across party lines.

Congress is currently considering more than a dozen wilderness bills which could yet be enacted this year, adding a significant amount of permanently protected land to the National Wilderness Preservation System – from Oregon to Idaho to West Virginia.

These new wilderness questions were asked as part of a Zogby International omnibus telephone poll of 1039 likely voters conducted from July 9-13, 2008, when gas prices averaged $4.10 a gallon nationally. The margin of error was +/- 3.1 percent. For methodology, contact: Zogby International's Fritz Wenzel, 315-624-0200 ext. 229, or 419-205-0287 or fritz@zogby.com.

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Wild & Scenic Rivers

There are some additional waterways, all of which have sections on the GWNF, that the Forest Service needs to evaluate for inclusion as Wild, Scenic, or Recreational Rivers: **Trout Run, Waites Run, German River, Wilson Creek, Mill Creek (of Maury River), Mill Creek (of Cowpasture River), Potts Creek, Stony Creek (north of Bayse impoundment), Benson Run, Big Marys Creek, Stuart Run (with Buck Lick and Bolshers Runs), Jim Dave Run, Little Back Creek, Crow Run (with Little Crow Run), and perhaps others**.

The revised Plan needs to have clear guidelines and objectives for the FS to gain WSR protective status for all the suitable waterways by making recommendations to Congress. All of the stream segments found eligible in 1993, as well as any new additions, should be formally recommended for WSR designation when the revised Plan is adopted. The GWNF planners must also redo the WSR evaluations so as to recognize the "outstandingly remarkable values" possessed by Passage Creek Seg. B, Cowpasture River Seg. C, the upper part of Cedar Creek, and St. Marys River Seg. B and recommend these also.

Important scenic and recreational areas

Shenandoah Mountain

Shenandoah Mountain is perhaps the most important single "special area" on the

Forest; it is certainly the largest. Stretching 60 miles in length and 15 miles in width, Shenandoah Mountain occupies almost 400,000 acres of public lands on the North River Ranger District in Augusta, Bath, Highland, Rockbridge, and Rockingham Counties, Virginia and Pendleton County, West Virginia.

The crown jewel of the Central Appalachians, Shenandoah Mountain constitutes the largest single contiguous tract of National Forest in the eastern United States. As such it is of national significance as one of the largest relatively intact wildlands of any kind in the entire East.

Here are Wild Trout streams and quality Black Bear habitat, as well as endemic species such as the Cow Knob Salamander and Shenandoah Mountain Millipede. Here too are tracts of old growth forest and rare habitats such as shale barrens. In addition to these ecological benefits, the complex of roadless lands that exists on Shenandoah Mountain is an unparalleled backcountry recreational resource in the region. Dazzling beauty abounds.
Shenandoah Mountain possesses probably the greatest amount of roadless areas and back-country recreational lands to be found in any single area between the Great Smoky Mountains National Park and the Adirondacks. Here are four clusters of Mountain Treasures with twenty-four individual Treasures totaling around 260,000 acres. Included in these Treasures are 112,000 acres in nine roadless areas "inventoried" by the Forest Service. Here too is the glorious Ramseys Draft Wilderness Area, as well as eight Forest Plan designated Special Interest Areas – Biological and the Laurel Run Research Natural Area.

Shenandoah Mountain contains the greatest concentration of old growth on the George Washington National Forest and in the Central Appalachians, with perhaps around 75,000 acres in this condition (see maps at pp. 210-11 of Southern Appalachian Assessment Terrestrial Technical Report and USDA FS "Stands 150 Years And Older CISC" map and CISC "old growth trend" at App. G-58 of 2004 GW-JNFs Monitoring Report).

On Shenandoah Mountain are headwaters of the James and Potomac Rivers, and of the legendary and beloved Shenandoah River. Segments of the North River and Cowpasture River qualify for inclusion into the National Wild and Scenic River System. Watersheds and impoundments on the Mountain supply the drinking water for tens of thousands of people in Staunton and Harrisonburg.

Over 200 miles of hiking trails traverse the area. The 20 mile North Mountain Trail, the 25 mile Wild Oak Trail, a component of the National Trails System, and the 40 mile long Shenandoah Mountain Trail provide outstanding recreational opportunities.

Problem:

Shenandoah Mountain is managed under a hodgepodge of differing management area prescriptions with conflicting emphases that do not adequately conserve the special values and conditions found here. The Forest Service does not recognize the significance of the Mountain. Management decisions and actions damage the Mountain's significant ecological, social, and recreational values. We do not want this majestic mountain to change and become more and more like everywhere else. But

that undesirable trajectory is a constant threat under present management regimes.

Resolution:

Shenandoah Mountain is a natural cathedral of ever-growing importance for the rejuvenation and inspiration of the human spirit. The entirety of Shenandoah Mountain must be allocated to management prescriptions that fully and consistently preserve and restore the special values and conditions found here.

Ecosystem Diversity

In order to manage the Forest the Forest Service often alters the composition, structure, and processes of terrestrial and aquatic ecosystems through such activities as timber sales and associated road building. Through these and other projects the agency affects "ecosystem diversity" on the GWNF. Ecosystem diversity is the variety and relative extent of ecosystem types including their composition, structure, and processes (36 CFR 219.16).

Factors such as elevation, slope, aspect, topographic position, slope configuration, moisture availability, and disturbance history are primary influences on forest composition (Lawrence et al.). The historical landscape of the East was characterized by a complex mosaic of habitats structured by natural disturbance and dominated by old stands with early successional habitat in naturally created gaps and openings of various sizes. The National Biological Survey estimates a 98-percent decline in old-growth and other virgin stands across the eastern deciduous biome (Noss et al. 1995).

For planning purposes the area of analysis should be large enough to consider broad scale trends and to capture the range of variation in disturbance frequencies and the aerial extent of disturbances. The FS must analyse non-National Forest land (such as private lands) in order to understand the context, opportunities and limitations for the Forest to contribute to the sustainability of ecological systems. During the revision process the FS will develop Plan components (desired conditions, guidelines, and objectives) for such things as major vegetation types and their successional stages, ecosystems and specialized habitats that are rare or at risk, and dominant disturbance processes in the plan area.

Comments on Major Issues for the upcoming Plan Revision:

The GWNF is one of the most important public lands in the central and southern Appalachians. Virginia and the Appalachian Mountains contain a diversity of plant life and wildlife found in few other places in the world, with diverse cove hardwood forests, mixed mesosphytic forests, northern hardwood forests, northern evergreen forests, oak-hickory forests, grass balds, glades and bogs, floodplain communities, cliffs and rocky places, and shale barrens. The watershed, unroaded lands, highlands, and other wildlands and public lands of the GWNF provide irreplaceable

habitat that must be wisely protected. In this area, plant species common to northern climates intermingle with plant species common to southern climates. This results in a great number of species and species mixes not found in the north or south. And one of the largest blocks of existing black bear habitat extends from western Virginia, through the GWNF and much of Virginia, to WVA and eastern Kentucky (Virginia Black Bear Management plan, VGIF). It is for many reasons, that we ask the Forest Service to use foresight to adequately protect the GWNF for the benefit of future generations in the upcoming forest plan revision.
- Take past cutting and natural disturbance into consideration. How is this impacting forest fragmentation, the introduction and spread of non-native and invasive species, PETS species, black bears, forest interior, mature and old growth forests, ESH and forest ecology?
- What effect has previous logging, roads, mineral development, special uses, utility corridors and other management activities had on soil productivity and water quality? What effect will these cutting units have?
- What are the impacts of management activities on black bears and black bear habitat? Trout, and other aquatic species?
-What conflicts with hunting, recreation, fishing, and wildlife do existing/planned roads create? Are road densities within plan limits in opportunity areas? Have all road closure and road management criteria from the Plan been followed? Consider all of these issues in the transportation analysis and roads analysis process.
- Develop an ecological restoration alternative across this forest including no logging, no road construction, road closure/recontouring/revegetation/obliteration and stream restoration (not to involve cutting of trees (non-brush) or use of heavy equipment in streams and riparian areas). This alternative should be modeled on and only allow prescriptions consistent with the McKinney-Leach bill (National Forest Protection and Restoration bill) that was formerly in the House of Representatives.
- Develop alternatives and prescriptions that protect large blocks of habitat with no logging or roadbuilding in them
- Develop alternative(s) and prescriptions that include only modest levels of cutting, using horse logging only or a large proportion of horse logging
- Develop alternatives and prescriptions that allow only modest cutting over very long rotations (200-300 years) in this area, using only individual tree selection logging.
- Develop prescriptions that include only custodial management, particularly in areas with unsuitable lands.
- Develop prescriptions that prohibit logging and roadbuilding, and emphasize non-motorized recreational opportunities in remote settings and other non-motorized recreational opportunities in other settings
- Develop prescriptions that prohibit logging and roadbuilding, and protect bears and other remote wildlife
- Develop prescriptions that include active restoration (road removal, etc.) in selected former roadless areas and wildlands that have been impacted by FS ground disturbing activities, mineral development, and other ground disturbing activities in the past ("wildlands restoration areas")
- Consider the sustainability of proposed logging, both in an economic and ecological sense. To what use will public timber be put to? Fine wood products, sawtimber or pulp, paper, pallets and other throwaway uses? Is this appropriate on public land? Are harvest levels degrading forests? Is mature forest being replaced with to many young forest stands in this area? Are forests that are developing into all-aged forests being replaced by even-aged patches?
- Consider recent surveys by the Forest Service that suggest that the American people is opposed to logging and other extractive uses of public lands.

- Consider the visual/aesthetic sensitivity of existing and proposed trail corridors, long distance trails (such as the AT, Allegheny Trail, Great Eastern Trail, TuscaroraTrail), campgrounds, primitive and dispersed camps, fisheries, other recreation areas, access roads to trails and trailheads, major highways, trailhead parking areas, roads used by recreationists, important sites visible along the length of all trails/ trail corridors, archaeological sites, seasonal differences in visual quality, key viewpoints, recreation facilities, airplane-visible areas and airplane-routes, prominent ridges and features, important biological/birding/wildflower/nature-walk areas, areas used by groups/special events (such as backpacking routes for summer camps, routes of wildflower pilgramages, etc.), trail shelters, recommended or existing special biological areas, special interest areas, research natural areas, national historic landmarks, scenic areas, agency- or university-recognized biological areas, proposed and eligible W&S rivers, rivers, streams, glades, and bogs. Cumulative impacts should be considered.
- Consider direct impacts to all of the above. Consider indirect impacts. Consider impacts of logging in the proximity of the above sites and campsites, etc. accessed from the above sites. Consider impacts to the entire primitive/dispersed recreational experience associated with the above. Consider impacts to remote or rarely-visited areas. Use the SMS re. aesthetics. Consider sight, sound, and the full range of aesthetic experience. Use up-to-date information and science re. aesthetics. What values should be protected? What are people's expectations? Cumulative impacts should be considered.
Consider impacts to users of trails such as the such as the AT, Allegheny Trail, Great Eastern Trail, Tuscarora Trail and other trails. What values should be protected along trails and in viewsheds? What are existing conditions? Will the management activities result in a change in conditions or desired conditions? What values do trail users expect and desire? What kind of views? What values do day hikers, backpackers, long-distance hikers, and others expect and desire? What kind of views? How many forested areas are there along trails and in viewsheds? How many unforested areas? How do the forested areas provide a pleasant contrast with the surrounding pastures on private lands if uncut? How do forested areas near trails and viewsheds create a greater senseof naturalness and beauty? How do these forested areas in trail viewsheds contribute to the continuity of natural ecosystems and natural processes in an otherwise fragmented landscape? How does viewing these forested areas from trails add to our understanding and appreciation of natural ecosystems and natural processes?
-Trails such as the AT, Allegheny Trail, Great Eastern Trail, Tuscarora Trail are unique recreational assets, both to the GWNF and to the Appalachian Mountains as a whole. There are only a few long distance trails in the entire Appalachian Range. It certainly deserves the highest level of protection that we can provide.
- How does logging complement the values the public associates with this area ? In what ways does it destroy or diminish these values?
- Will management activities affect steep slopes, erosive soils and other sensitive soils along the creeks and tributaries in the GWNF? Do not merely average steep slopes with flatter slopes over given areas. What places in the forest are on steep slopes? Identify these areas. Do not merely take an average of slope. How management activities affect poorly drained floodplain soils? Soil Productivity? How will this, in turn, affect soils in the project area?
- Does the GWNF contain any karst areas? Roads, traffic, sedimentation, contaminants and debris from the project could affect these very sensitive areas, if undertaken. Development should be avoided in karst areas because of the greater potential for impacts to groundwater and sensitive ecosystems than other geological areas.

- Does the GWNF contain any geological formations that are acidic, toxic, or harmful when disturbed by ground disturbing activities, burns and other management activities? For example, the Anakeesta formation on the main spine of the Appalachian Mountains is highly acidic and has caused fish and salamander kills when breached by roadwork (Newfound Gap Road, Great Smoky Mountains NP). Do any geological formations with similar properties occur on the GWNF. How will management activities affect any such areas?
- Does the GWNF contain any caves, blowholes, underground stream systems, and recharge areas? If so, proper surveys should take place. Adequate buffers should be established. How will management activities affect such areas?
- What buffer zones are needed around riparian areas, old growth forests, designated old growth forests in order to protect the resources in these ecosystems? How will the management activities on the GWNF affect riparian buffer zones? Old growth buffer zones? Potential old growth buffer zones?
- Riparian forests and other such forests are valuable resources and should receive biologically adequate insulating buffers from disturbance.
- How do management activities affect watershed quality and woody debris? The organic content of soils? Pit and mound topography? Large boles on the forest floor? Snags? Nurse logs? How do management activities in turn affect soils in the project area?
- What are the cumulative impacts of management activities along with those of ozone, acid rain, hemlock adelgid, paucity of old growth trees and interior forest habitat, poor water quality, effects of roads, slowing tree growth rates and other legitimate forest health problems not thoroughly recognized by the Forest Service to date? How will this affect the GWNF? Please examine forest health in an ecological manner, not just a silvicultural manner.
- Examine what management activities could lead to a hiatus is mast production. Den trees. Other habitat components for black bears, turkey, pileated woodpecker and other wildlife.
- Are deer populations above or near carrying capacities in any portions of the GWNF? How could management activities lead to increases in deer populations? Browsing on herbaceaous plants? Destruction of plants on private lands in or around public lands? Regeneration and restocking failures?
- How would management activities affect achievement of old growth, potential old growth, and old growth reserves of a variety of sizes, especiallly those of a size equal to or larger than the largest potential natural disturbance event? How would management activities affect distribution of old growth, especially of old growth tracts that are large and well connected with one another across the landscape through wildlife corridors? Would the management activities affect the size of any old growth, old growth reserves, or buffers? Adequacy of old growth levels for turkeys? Bears? Salamanders? Songbirds? Cerulean warblers? Other key Appalachian species?
- What impact would the management activities have on the variety of species found in the GWNF (or potentially or historically found in the GWNF) including:
- -TESLR salamanders, hellbenders, other amphibians,
- - rattlesnakes, coal skinks, other reptiles,
- - wood turtles, other turtles,
- - moss, lichens, mushrooms and other fungi,
- - arthropods,
- - soil borne organisms,
- - molluscs, aquatic macroinvertebrates,
- - golden eagles, northern goshawks, Coopers hawks, barred owls, other diurnal raptors, other owls,

- - pileated woodpeckers, other woodpeckers
- - trout, other fish,
- - Virginia big-eared bat, eastern big eared bat, Indiana bat, gray bat, other bats,
- - black bears, eastern cougars, lynx, fishers, other mammalian woodland carnivores/omnivores,
- - Diana frit. butterfly, other butterflies and moths,
- - forest insects, aquatic insects, streamside insects, cave insects, other insects,
- - area-sensitive birds, forest interior birds, winter wrens, cerulean warblers, Swainsons warblers, magnolia warblers, worm-eating warblers, cuckoos,
- - ginseng, butternuts, herbaceous understory plants, rare plants
- - beavers, river otters,
- - old growth dependent species, wetland/riparian area species, hemlock cove species, hardwood cove species, and mixed hemlock/hardwood cove species?
- - sensitive and rare species listed in GWNF Plan Rev (1993) , and on current rare species listed of state natural heritage programs, universities, state threatened, endangered and rare species, species conservation groups (bat, wildflower, ornithological, other groups), etc.
- Have MISs been selected that represent the variety of species in the GWNF? Species throughout the food chain?
- What is the natural range of variability for early successional habitat? Grass/forb habitat? How were natural levels of early successional habitat and grass/forb habitat maintained in the GWNF and vicinity, and the region, prior to civilization and European settlement? To what degree do patches of naturally-created early successional habitat and grass/forb habitat (within-stand patches and larger patches) exist in forest habitat in the GWNF and vicinity? To what degree does natural disturbance contribute to creation of early successional habitat and grass/forb habitat? To what degree to common events such as natural tree death contribute to this habitat? To what degree do episodic events such as ice storms, fires, etc. contribute to this habitat? What are the trends? To what degree does artificially created early successional habitat and grass/forb habitat in the GWNF and vicinity, and in the region, exceed that which would have occurred under the natural range of variability? How have these affected the wildlife, plants, and biodiversity of the area?
- What is the natural range of variability for old growth? How were natural levels of old growth maintained in the GWNF and vicinity, and the region, prior to civilization and European settlement? What are the trends? How have these level and trends affected the wildlife, plants, and biodiversity of the area?
- How would management activities affect cove hardwoods, northern hardwoods, boulder fields, seeps, riparian areas, old growth and other special or unique habitat? Underrepresented habitat? Special, unique or underrepresented habitat? Underrepresented habitat with few nearly mature/mature/old growth stands remaining?
How will TESLR species, state-listed species (state natural heritage program lists of rare animals, rare plants, state-endangered and threatened species) and species acknowledged as rare by expertsbe affected by management activities? How will habitat, foraging sites, and nesting sites of such species be affected? Genetic viability? Competition from other species? Freedom from disturbance? Visibility?
- How will roads, cutting units and other infrastructure bring non-native plants into the areas, especially areas near landings, roads and skid trails? How have management activities affected non-native species in the past? How will management activities affect populations of non-native plant species? Will it reduce them or will it only reduce selected plant species?
- Consider how management activities would affect soil stability, moisture retention

capability, erosion, compaction, nutrient leaching rates, roots, soil niches, soil structure, and biological productivity. Consider cumulative effects.
- What activities result in self-replacement? What are the anticipated impacts on soil productivity? How much of the nutrients in branches and boles are removed? How much is left? For how many generations can self-replacement take place at the present rate of extraction? What are cumulative effects?
- Water quality: What effect will the management activities have on coarse particulate organic matter, fine particulate matter, algal abundance, temperature extremes, turbidity, nutrient input into streams, amount of suspended solids, stability of substrate and banks, uniformity of water depth, flow extremes, diversity of microhabitat velocities, abundance of shredders vs. scrapers, and abundance of omnivores vs. piscivores? What are the cumulative effects? Are management activities permitted in any areas where MAIS (or other water quality/aquatic habitat quality) rankings are low, are at risk of declining, or show declining trends?
- When management activities take place, what wetland buffers are provided? Include maps with adequate detail and scale of all wetlands, wetlands types, as these relate to areas where various management activities would be permitted.
- What is the cumulative impact of activities to be permitted in the in forest plan revision conjunction with all other USFS management activities (including TSs, mineral extraction, game openings, grazing, powerlines, communication towers, salvage sales, roads, highway construction, waterholes, recreational development, fire suppression, prescribed burns, fire line constrution, etc.) throughout the project area and surrounding areas past (at least 150 years), present, and future (at least 150 years).
- What elements of the national forest are rare or unavailable to the general public and natural environment on private lands? What aspects of the national forest are rare or unavailable to the general public and natural environment on private lands? How do the proposals for the plan revision provide for that which cannot be provided for on private land? (i.e. undisturbed habitat, biologicaldiversity, unmarred scenery, forested riparian habitat, hiking opportunities, etc.)?
- Consider up-to-date scientific information, conservation biology, and changing public attitudes toward logging since the existing plan was signed.
- Consider biodiversity on all levels in this analysis, including genetic, population, species, community, ecosystem, and landscape levels.
- How will natural forest succession be set back by the various alternatives under the plan revision?
- Disclose how natural disturbance regimes can provide early successional habitat in the analysis.
- Disclose how the management activities will affect potential poaching, illegal road use, litter problems, and noise in wildlife habitat.
- How will management activities affect canopy, canopy structure, natural disturbance regimes, pit and mound topography, snags, wood debris on the forest floor and across streams?
- How will management activities help the current age imbalance (or lack of stands/trees) in the 100-110, 110-120, 120-130, 130-140, 140-150, 150-160, 160-170, 170-180, 180-190, 190-200, 200-210, 210-220, 220-230, 230-240, 240-250, 250-260, 260-270, 270-280, 280-290, 290-300, and 300+ age classes? The national forest plan revision should provide for and consider these age classes, not just a limited number of age classes on the lower end of eastern deciduous and coniferous tree lifespans.
- Please consider all known and reasonably anticipated effects of forest fragmentation on native biodiversity, interior dependent species, exotic species invasion, seed drift, temperature change through increased sunlight, and deer

browse.
- Disclose effects on old growth, potential old growth, and old growth dependent communities.
- Adequately monitor, inventory and protect all historic and prehistoric archaeological/cultural sites in the plan revision. Respect and protect all native American archaeological/cultural/religious sites and all native American and non-native- American cemeteries/graves.
- Adequately monitor, inventory and protect all biological, watershed, recreational and geological resources/values in the plan revision.
- How would den trees, hard mast production, cover, and road densities be effected by management activities?
- Consider impacts on species outside of the NFS boundaries, but directly downstream from of the GWNF.
- All Va and W.Va. BMPs should be met or exceeded throughout the planning, project implementation and post-sale stages. The FS should adequately monitor BMPs. All BMPs should be specifically examined by the FS and followed throughout the process of any management activities. Past management activities should be examined to see if they complied with BMPs. If not, these problems should be corrected and a decision should be made as to what corrective steps are needed, including watershed and ecological restoration and including foregoing further harmful activities in the watershed. Pre-sale planning and layout BMPs, adequate, repeated monitoring, and all post-sale BMPs should be followed. Specific BMPs regarding road grades, road construction, stream crossings, road placement, cold water stream buffers, rehabilitation of bare areas, and identification and avoidance of riparian areas, seeps and intermittent streams should be carefully followed.
- What area sensitive birds exist in the GWNF? What area-sensitive forest interior birds? What area-sensitive birds with other habitat needs? How much forest interior/forest habitat is required for each species? How much old growth/mature forest? How much other special habitat? Over what distance should management activities that disturb habitat be prohibited from populations of these birds?
- Migratory birds (nesting and breeding birds) could be directly killed or injured as a result of logging. If so, the FS, its agents and private agents could be found to be in violation of the MBTA and prosecuted. The FS should provide clear standards and guidelines in the plan revision to prevent the taking of MBTA-protected birds in carrying out management activities.
- Consider the evidence of any declines in amphibians (on a global, regional, forestwide, or smaller scale). What is causing this decline? How do global warming, air pollution, development, FS management activities and other factors affect this decline? Consider this in your cumulative effects analysis?
- The economic analysis should evaluate the value of hunting, fishing, recreation and non-extractive values, not just logging.
- Benign neglect management may produce a healthy, vigorous forest, also "capable" of producing quality sawtimber and other wood products. Consider alternatives that emphasize benign neglect management.
- What are the results of required monitoring from the GWNF Plan? Have each of the items been monitored on a timely basis? Has monitoring evaluated at a representative range of sites, under respresentative conditions? Has monitoring been thorough? Were scientific protocols used? Was adequate data collected? What do monitoring results say regarding items in need of attention in this forest plan revision? If monitoring efforts have been inadequate for any items, what additional monitoring and analysis needs to take place to complete this plan revision in a informed manner?
- Has the "needed" research taken specified in the 1993 Plan Rev taken place?

What do research results say regarding items in need of attention in this forest plan revision? Were scientific protocols used? Was adequate data collected and analyzed? If research efforts have been inadequate for any items, what additional monitoring and analysis needs to take place to complete this plan revision in an informed manner?
- As part of the plan revision, the FS should identify biological corridors, potential biological corridors and/or historical biological corridors in the GWNF and vicinity. Impacts of potential management activities along these corridors should be analyzed. Alternative(s) should be developed that protect large blocks of remote habitat connected by a network of biological corridors. It may be necessary to select such an alternative in order maintain the full range of biological diversity in the GWNF.
- The FS should use a regional approach when examining biological corridors. In order to analyze the issue it is necessary to examine the connectivity (historical or otherwise) between the GWNF and other large blocks of public land - including state and federal lands elsewhere in W.Va., Va and elsewhere In order to analyze the issue it is necessary to examine the connectivity (historical or otherwise) between the GWNF and nearby mountains and river basins. Impacts of potential management activities along these corridors should be analyzed.
- The FS should examine the latest science on the role of natural processes, such as fire, wind, snow, ice, flooding, insect infestations, disease outbreaks, succession, etc., at enhancing and maintaining biological diversity. Artificial habitat manipulation cannot fully replicate these processes or may be prohibitively expensive in many cases; the inability (or ability) of artificial habitat manipulation to replicate these processes should be explored in the analysis. Diversity should be at least as great as that which would be expected in a natural forest (NFMA regs) and the FS should fully incorporate and fully allow natural disturbance and natural processes to maintain and enhance diversity, rather than logging and other habitat manipulation.
- Does the GWNF have a fire plan? Has the GWNF undergone NEPA analysis for its fire plan? What have been and what are anticipated to be the impacts of fire (including natural fire and prescribed burning) and fire suppression activities on the GWNF's soils, watersheds, wildlife and other resources, and on the GWNF's budget? How have (how are) fire policy priorities changing? What does the National Fire Plan state regarding appropriate fire prevention and fire suppression strategies?
- Consider the studies of Jack Cohen, a fire expert working for the FS, who recommends that in order to most efficiently and effectively protect structures on the wildland urban interface, people should concentrate on reducing underbrush within 40 meters of structures. The GWNF should only allow fuel reduction treatments within this wildland urban interface zone, not in areas far into the interior of NFS lands where treatments will be inefficient and ineffective.
- Any fuels treatments permitted in the plan revision should allow only the removal of small underbrush, rather than larger fuels. In the BEHAVE fuel model used to predict fire behavior, normally only dead fuels less than three (3) inches in diameter and live fuels less than one-quarter (1/4) inch are used to predict fire behavior. Large-diameter fuels, such as the main stems of the downed mature trees, are ignored from fire prediction models because they do not affect fire behavior until long after the fire front has passed. (Burgan and Rothermal,1984:9). Commercial logging should not be allowed for fuels reduction, because it tends to emphasize the removal of the larger fuels, not the smaller fuels that should be removed.
- In addtion, when logs lie directly on the ground surface, they can "wick up" soil moisture and retain higher fuel moisture levels for a significant portion of the fire season. Large-diameter decaying downed logs can store
significant amounts of water, and thus function like "heat sinks" because so much

heat energy is required to evaporate the water, heat and ignite the woody biomass. The centers of large logs can actually be cool and moist
even when the outer shell of a log is on fire; consequently, large logs provide vital refugia for a number of wildlife species during fire events. These higher fuel moisture levels tend to reduce the flammability of the logs and reduce the rate of fire spread. Finally, the downed logs provide important structures that shade adjacent live vegetation from direct sunlight and strong surface winds. This function helps retain fuel moistures and retard rate of fire spread through adjacent fine fuels.
- Impacts of fire suppression activities (and prescribed burn activities), including fire line construction, staging areas, water use, fire break construction, cutting of trees, wildlife disturbance, back-fires (and other man-made fire), helicopter torching, chemicals and byproducts of chemicals in fire retardant drops, ability of fire retardants and back fire (and other man-made fire) enhancers to increase fire effects and fire risks, and all other reasonable impacts of fire suppression (and prescribed burning) activities, as they affect wildlife, soils, watersheds, recreation, wilderness, roadless areas, and other resources.
- The FS should explore the possibility of using prescribed burning in lieu of commercial logging and the possibility of increasing prescribed burning somewhat and decreasing commercial logging by a large margin in the plan revision process.

- What is the role of the food chain in maintaining diversity, viable species and forest health in the GWNF? How will the loss (or reduction) of organisms at various levels in the food chain affect organisms throughout the food chain? How will management activities affect organisms at various levels in the food chain and what indirect effects will these changes have on other organisms?
- A better range of management indicator species needs to be incorporated into the plan revision. While the range of management indicator species is superior to that of some other 80s era plans, many of the species are game species.
- The FS should develop a plan revision that complies with the MBTA, the executive order on migratory birds, and the subsequent required memorandum of understanding. Listed species and species of concern should be identified and adequately protected.
- A report published in 1991 by Steven Reagan, "Habitat use by female black bears in a southern Appalachian bear sanctuary", analyzes how logging adversely affects black bears. One significant finding of this research was that black bears were not taking advantage of food and habitat in even-age logging sites as was anticipated. He also found that such logging results in a dramatic increase in female black bears' home range. The outcome would be increased competition for a limited food and habitat supply. Having to roam over a greater area would also make them potentially more vulnerable to legal, illegal, and accidental killing, injury, or stress by humans.
- Bears are top level omnivores. There is little for them to escape from, except for humans who kill them for fun or profit. Contemporary bear killers have dog packs, radio collars and tracking equipment, walkie-talkies, an extensive road system, 4-wheel drive motor vehicles (ATVs and OHVs), and high-powered weapons all at their disposal. Large remote areas are needed to maintain black bear security in the GWNF.
- Fabricated "cover" areas could actually provide the bears no real "escape" at all from human predators and the contemporary tools at their disposal. Plus the corridors and roads would be easily accessible and identifiable. These areas, if indeed they attract bears as the agency claims, could serve to lure bears to their doom through a false sense of security. These sites could forseeably act as "sinks" on the bear population.

- “Bears have the second lowest reproductive rate of any North American land mammal.” (Virginia Draft Bear Management Plan, p. 11). It is important to recognize this and to establish management areas, prescriptions, and monitoring techniques that protect the genetic diversity and viability of this k-selected species. It is important to understand the threats to bears and effectively reduce these threats.
- Black bears require an adequate amount of suitable large trees for above ground denning and other cover habitat for denning. How would management activities and uses affect black bear denning?
- How are adult male, adult female, and young black bears affected by management activities? Do management activities and uses affect bears of different ages, sexes, and familial status differently? How so? Is there a need to establish black bear refuges in order to protect female black bears or females from young in any locations? How many black bear refuges exist in W.Va. and neighboring states?
- Existing deer herd and their impacts should be issues here. The effect is well known and obvious. Deer respond positively to actions that fragment forests and fabricate edge. With increased habitat and food, ultimately more deer can be expected. The FS should analyze the effect from the deer herd and from the fabrication of conditions favorable to increasing their density. "[W]hitetailed deer have reached and sustained densities across much of the eastern, northern, and southern United States sufficient to cause manifold and substantial ecological impacts." (see "The white-tailed deer: a keystone herbivore",1997, D.M. Waller and W.S. Alverson, Wildlife Society Bulletin 25(2):217-226; incorporated by reference). The deer's deleterious effects upon herbaceous ground flora are well documented. See "Impacts of white-tailed deer on endangered plants",1992, S.G. Miller, S.P. Bratton, and J. Hadidian, Natural Areas Journal 12:67-74; "Patterns of plant diversity in overbrowsed primary and mature secondary hemlock-northern hardwood forest stands",1997, T.P. Rooney and W.J. Dress, Journal of the Torrey Botanical Society 124(1):43-51; "Species loss over sixty-six years in the ground-layer vegetation of Heart's Content, an old-growth forest in Pennsylvania, USA",1997, T.P. Rooney and W.J. Dress, Natural Areas Journal 17(4):297-305. The effects of the deer herd are not limited to plants; see "Herbivores and the ecology of forest understory birds",1997, W. McShea in The Science of Overabundance, McShea, Underwood, and Rappole, editors. Detrimental impacts to plant diversity, viability, and distribution can also occur from the logging, in addition to the impacts from deer. See "Do Appalachian herbaceous understories ever recover from clearcutting ?",1992, D.C. Duffy and A.J. Meier, Conservation Biology 6:196-201; "Possible ecological mechanisms for loss of vernal-herb diversity in logged eastern deciduous forests",1995, A.J. Meier, S.P. Bratton, and D.C. Duffy, Ecological Applications 5:935-946. Recovery of a plant species distribution can be impeded when habitat fragmentation creates barriers to dispersal; see "Dispersal can limit local plant distribution", 1992, R.B. Primack and S.L. Miao, Conservation Biology 6:513-519.
-Salamanders: Impacts to site-sensitive creatures such as salamanders should be properly monitored and assessed. These creatures are very important components of forest ecosystems. The biomass of salamanders in a northern hardwood forest was twice that of the bird community during the breeding season and nearly equal to that of small mammals (see Burton and Likens, 1975, Copeia: 541-546). While in southern Appalachian forests salamander biomass may exceed that of all other vertebrates combined (see Hairston, 1987, Community Ecology and Salamander Guilds). It is clear that they play key roles in ecosystem dynamics. Abundant studies reveal the severe impacts of logging upon salamander populations and their preference for older forest sites. See "The Relationship Between Forest Management and Amphibian Ecology", 1995, deMaynadier and Hunter, Environmental Reviews

3:230-261 (incorporated by reference). See also "Effects of Timber Harvesting on Southern Appalachian Salamanders", Petranka et al, 1993, Conserv. Biol. 7:363-370 and "Effects of Timber Harvesting on Low Elevation Populations of Southern Appalachian Salamanders", Petranka et al., 1994, Forest Ecology and Management 67:135-147 . Salamanders and their reproductive success may be significantly impacted by logging and roading.

- Of particular concern to the GWNF are extirpated species, at-risk or declining species, species at the edge of their range, disjunct species, species with little habitat left except on the GWNF or other NFs, other unique populations, and important habitat areas. What species and habitats meet these criteria and where are they found on the GWNF? What are the threats of management activities to these species and habitats?
- Have all T&E species on the GWNF or downstream had critical habitat designated, as required by law? How will management activities affect critical habitat and T&E populations? If all species have not had critical habitat designated, when will it be designated and how will these species and their habitat be protected under the plan revision?
- Does the GWNF have adequate management objectives and conservation agreements/strategies for all TES species on the GWNF or downstream? How will management activities affect the requirements and goals of these? If all species do not have adequate management objectives and conservation agreements/strategies, when wil these be completed and implemented and how will these species and their habitat be protected under the plan revision?
- How will the plan revision ensure that agency actions will not jeopardize the existence of T&E species? How will the plan revision ensure the recovery of T&E species?
- How would the FS manage species that are de-listed from ESA lists, in order to keep these species from becoming threatened or endangered again?
- There is no higher priority than protecting endangered species.
- The agency must formally consult with the USFWS on this plan revision and on individual projects if endangered species may be impacted. For example, see 16 USC 1536(a)(2).
- The requisite full, intensive, and competent surveys, inventories, and data gathering for endangered species and their suitable habitat must be performed. Comprehensive surveys and special surveys must be performed or incorporated into the analysis.
- In addition, the FS must maintain the viability of species under NFMA.
- Substantive protection under the ESA applies to species habitat - Babbit v. Sweet Home(1995). The ESA "indicates beyond doubt that Congress intended endangered species to be afforded the highest of priorities." TVA v. Hill(1978) The FSM requires the agency to "[p]lace top priority on conservation and recovery of endangered, threatened, and proposed species and their habitats..." FSM 2670.31. Maintenance of NFMA mandated viability is not ensured, let alone reversal of trends and recovery of populations
- Efficacy of proposed mitigation measures for PTES and locally rare (LR) species should be explained and they should completely compensate for potential adverse effects.
- Section 9 of the ESA states that it is unlawful to "take" listed species. 16 USC 1538(a)(1) "`Harm' in the definition of `take'... may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns,including breeding, feeding or sheltering." 50 CFR 17.3.
- Of particular concern are cumulative impacts. The FS must fully evaluated the

cumulative effects of management activities and other activities/events on FS and non-FS land. The FS should adequately disclose the potential cumulative impacts to USF&WS.
- The FS should evaluate the impacts to the Indiana bat and Va. northern flying squirrel and consult with USF&WS regarding this plan revision's impacts on these species if there are cumulative effects, synergistic effects, changed circumstances, or other factors not known or not fully evaluated at the time of the Indiana bat and flying squirrel amendments and consultation.
- The FS should analyze the impacts of roads, access routes, skid trails and other logging infrastructure, motorized trails, motorized use, mechanized use (such as mountain bike use) as these impact biological diversity and the viability of species.
- The FS should analyze the impacts of even-aged logging (including patch clearcutting or "group selection" logging), all forms of logging, artificial openings, and cleared corridors (for powerlines, roads, pipelines, firebreaks, and other uses) as these impact biological diversity and the viability of species.
The FS should analyze the impacts of prescribed burning at times of the year when fires do not usually occur, if this practice is considered, as this impacts biological diversity and the viability of species.
- The FS must follow U.S.C. 1604(g)(3)(B) and 36 CFR 219.19. Well distributed habitat for species that require old growth forests, high quality riparian forests, remote habitat, high elevation forests, mature mixed mesophytic forests northern hardwood forests, northern evergreen forests, oak-hickory forests, grass balds, glades and bogs, floodplain communities, cliffs and rocky places, cave habitats, karst habitats, shale barrens and other unique habitats must be provided.
- If umbrella species are selected for MISs, the FS must select species that adequately represent species across taxa and species with demanding (or differing) habitat needs. This is hard to do, so an adequate number of MIS must be selected.
- The FS should select MIS in the following categories: 1.) TES species, 2.) game and commercial species (including mushrooms??), 3.) special interest species, and 4.) ecological indicators. Among species that are "special interest" species, the FS should select MIS species that represent the character and wildness of southern and central Appalachia.
- What species are listed as rare by natural heritage programs, universities, and experts? How will these species be impacted by management activities?
- What species have special habitat needs that may be influenced by management activities? Are these MISs?
- The FS should evaluate both plant and animal species, including invertebrate species, as potential MISs.
- How do management activities impact mobility of MISs? Genetic diversity? Biological corridors? Access to key spawning areas, feeding areas, mating areas, shelter, and other important areas to the life cycle of species?
- How do management activities affect security and cover for MISs?
- The GWNF should consider the need for, potential for, and feasibility of reintroductions of species that have been extirpated from the area, including the red wolf, gray wolf, fisher, elk, bison, eastern cougar, peregrine falcon, extirpated aquatic species and other species. The GWNF should consider societal acceptance of such actions, changing awareness about and appreciation of native species, possible positive economic benefits from tourism related to the return of native species, and educational efforts to promote awareness of native species. The GWNF should consider the relationship of this kind of conservation activity to historical reintroduction successes in the eastern US several decades ago, including the return of deer, turkey and black bears to areas where they had been wiped out. Unobtrusive historical interpretation of past wildlife reintroductions should be

considered. The GWNF should consider the degree to which some species have (or could) return of their own volition (including eastern cougars and fishers) and the need to allow this to happen unhindered wherever possible. If reintroductions of species are determined to be infeasible at this time because of lack of habitat, the presence of excessive amounts of roads, or other habitat-related factors, the GWNF and other cooperating public land agencies should develop proactive plans with clear timetables to ensure that a sufficient amount of remote habitat, old growth and other habitat for extirpated species is protected on public lands in order to achieve the eventual return of extirpated species.
- In a part of the country with only a limited amount of certain types of habitat, there is a risk that a single large event could wipe out a large proportion of a rare species or species. The FS needs to determine whether existing habitat blocks have sufficient size, distribution, and connectivity across the landscape in order to maintain species viability and biological diversity. Is redundancy built into habitat block protection as a fall-back?
- What is the biological carrying capacity of the larger blocks of habitat (for key species). Are blocks of habitat of adequate size?
- Will (have) inventories be completed to evaluate biological diversity in terms of its prior and present condition?
- To what extent have breeding bird surveys taken place? Do these surveys cover an adequate amount and range of habitat? Off-road areas?
- What are the impacts of global warming, climate change, ozone depletion, exotic species, air pollution, particulates, water pollution, acid rain, other toxics and hazards, noise pollution and light pollution on biological diversity and the viability of species in the GWNF and downstream? Where do these effects occur? Will the GWNF seek to address these global, regional, and forestwide problems on any scale or in any forum? What are the cumulative effects?
- What is the potential for (and what are the effects of) the release of genetically-modified organisms, genetically-altered organisms, and super"weeds" (organisms that breed from both GMO stock and non-GMO stock and proliferate and are hard to eradicate) in the GWNF? How close to the GWNF are any GMO experiments taking place and what is the risk of accidental release into the environment? Will the GWNF seek to stop such experiments?
- What are the impacts of acid rain (both on terrestrial ecosystems and in aquatic ecosytems)? What are the impacts of acidic, toxic and otherwise harmful substances from coal mines, other mines, mine tailings, sludge ponds, and other mining byproducts and mining facilities? Where do these effects occur? What are the impacts of limestone mining operations?
- What are the impacts of various logging methods and yarding methods on soils, watersheds, wildlife, native plants, recreation and other resources and values?
- Under the 1993 Plan Rev, has the forest been managed such that it looks "natural"? Does the forest look natural, in the sense that it contains natural levels of old growth, natural disturbance, tree species variety and other aspects of naturalness that one should expect in a forest in this bioregion? In what areas does the forest not look natural? How should the GWNF be managed so that it looks natural "with limited man-caused disruptions"?
- The 1993 GWNF plan rev. mandates that some special areas be protected (i.e. botanical, wildlife, cultural, historical, etc. areas) What are the results of new surveys/new finds outside of these areas since the GWNF Plan? What additional areas may warrant protection as special interest areas? What prescriptions are needed inside existing and potential special areas in order to adequately directly and indirectly protect the resources, biological communities, surroundings, drainages, underground resources, etc. of existing and potential special areas? How have

management activities and uses affected these areas and the resources of concern? What areas should be protected as special interest areas and research natural areas?
- The GWNF Plan Revision must take into account the recent executive order on invasive plants (noxious weeds). Impacts of management activities and uses should be analyzed as they affect the proliferation of invasive plants and animals. Prevention strategies that reduce invasive plants and animals by adressing the vectors of spread (including logging, OHV use, motorized use, logging roads, mineral development, grazing and other ground disturbing activities) should be analyzed and implemented. All impacts of herbicide, insecticide, and biocide spraying across the GWNF and on non-FS lands, including the long-term impacts of repeated spraying, should be analyzed.
- What are the impacts of changes in vegetation type resulting from forest type conversions and even-aged management?
- What chip mills and related chip mill related facilities have been established in the Appalachian region and surrounding areas since the GWNF Plan? What are the past, present and reasonable impacts of chip mills on vegetation, old growth, diversity, forest fragmentation, mast, wildlife, native plants, hardwood markets, economics, society, soils, watersheds, and other resources in the GWNF area? How do management activities and prescriptions facilitate the use of chip mills and timber buyers and the adverse impacts of chip mills?
- What strategies or comprehensive strategy has the GWNF and FS developed to address extirpations, declines, blights, or non-native species invasions that affect trees, other vegetation, wildlife, biological communities, and biological diversity in the GWNF and Appalachian region (e.g. chestnut blight, dogwood anthracnose, hemlock adelgid, northern hardwood declines, butternut declines, Dutch elm disease, or new blights and diseases, etc.)? For example, what has been done to identify and stop the spread of pests in the course of international trade and interstate trade, to reduce roads and other vectors, to quarantine wood products from infected areas, to establish seed banks and plant disease-resistent (non-GMO) strains of trees, or to reduce air pollution that may weaken the health of some trees and biological com munities and make them more susceptible to non-native diseases and pests? What partnerships has the FS been a part of in order to address these issues?
- Where appropriate and to the extent possible, the GWNF is expected to "preserve and enhance the diversity of plant and animals communities... so that it is at least as great as that which would be expected in a natural forest" (36 CFR 219.27(g)). Consistent with the CFR regulation above and consistent with the desires of most users to maintain the GWNF as a special place with natural amenities emphasized, the FS should identify large blocks of forest where natural processes dominate. These should be retained as DFCs, goals and themes for the management of the NF.
- Moreover the GWNF should also emphasize long rotations, if any logging is to be done in the NF. With regard to long rotation and extent of protected old growth in the NF, the GWNF should 1.) increase the amount of protected old growth, since all-aged old growth may have been more plentiful than reflected by existing conditions in the GWNF, and 2.) allow trees to reach the ages they historically reached, before historical (European) settlement.
- What protocols have been developed for the identification of old growth for the forest types found in the GWNF? What requirements will the GWNF Plan Revision incorporate for old growth identification and protection?
- Are snag retention standards adequate and do they meet the needs for the wide range of species found in the region, including snag dependent owls, raptors, woodpeckers, bears, other denning mammals, bats, insects, fungi, and other species? Does the GWNF recognize that are difference in snag preferences among species? How will the GWNF assure that adequate levels of snags will be protected

and retained well into the future? How will the GWNF assure that management activities will not adversely affect snags (including residual damage, blowdowns, etc.)? How will snags be distributed in order to maintain diversity and viability?
- What other components of forest are important - such as downed logs, pit and mound topography, logs across streams, coarse woody debris, large woody debris, caves, rocky outcrops, seeps, etc. - how will they be protected?
- Has any destructive or illegal harvesting of medicinal plants or other species of economic value (such as bears for gall bladders, etc.) taken place in the GWNF? What are the effects on these species? How will these species be protected? What enforcement efforts or other measures will be undertaken to stop destructive or illegal harvesting of plants and animals? How has removal of forest cover and other management activities affected rare and threatened plants such as these?
- How has the FS assured the regeneration and restocking of trees in the GWNF? Has regeneration and restocking been consistently achieved as demonstrated by the FS?
- To what degree has clearcut logging and clearcutting variants (even aged logging) produced ill-formed or unmerchantable trees (trees that are ill-formed due to crowding, multiple stump sprouting, pistol butt, and other problems)? To what degree has clearcutting and its variants produced forests that are overcrowded and vulnerable to forest fires?
- To what degree has clearcut logging and clearcutting variants (even aged logging) produced maples, tree of heaven, and other less desirable trees from a silvicultural perspective?
- Has the GWNF been able to regenerate and maintain oaks in adequate numbers at appropriate sites? What is the role of forest fires in maintaining oaks, chestnuts, and other tree species in the Appalachians?
- The current plan permitted a large proportion of clearcutting and a large proportion of even aged logging, relative to other logging methods. According to NFMA, clearcutting should only be permitted where optimal and even-aged logging should only be permitted where appropriate. How did the current plan demonstrate that approved logging meets this criteria? How will the FS demonstrate that, for any logging permitted by the plan revision, that clearcutting would only be permitted where optimal and even-aged logging should only be permitted where appropriate?
- Is logging on the GWNF ecologically sustainable? Can the FS assure that a non-declining even-flow of timber at the current logging rates without ever declining? Over what time frame is this considered? Does this consider impacts of invasive species, losses of key tree species, climate change, air pollution, declines, development, forest fragmentation, conversions and other factors? Are all the sites where logging has taken place (or could take place) suitable - are there any such poor sites, or sites impacted by management activities, such that a non-declining even-flow over multiple generations cannot be assured on them?
- Have any cutting units been logged before reaching their culmination of MAI? How was culmination of MAI determined? How does the FS prevent this from happening in the current plan and how will it prevent this in the revised plan?
- What is the potential for sludge spills on waterways in and downstream from the GWNF? What are the cumulative effects on resources in and downstream from the GWNF? Does the GWNF have a contingency plan for them? Does the GWNF take any preventative action to stop them? How do management activities and uses effect potential sludge spills?
- How close to the GWNF does mountaintop removal, other surface mining, and valley filling take place? What are the cumulative effects of such activities on the resources in the GWNF? Will the GWNF willingly take part in any land exchanges if it knows that public land to be exchanged will later be used for surface mining or

mountaintop removal? What are the effects?
- Has any flooding (whether expected, unusual, or severe) taken place on waterways in the GWNF or downstream? How have management activities and uses on the GWNF affected flooding and flood severity?
- How do management activities and uses affect springs, seeps, ephemeral streams, intermittent streams and other riparian areas? How are these areas identified? Are these areas identified during conditions when they are most likely to be detected? Are resources adequately protected?
- What are the impacts of activities on upland areas on springs, seeps, ephemeral streams, intermittent streams, perennial waterways, lakes, bogs, glades, major wetlands, streams through karst areas, and other water resources? What are the impacts of roadbuilding (and other ground disturbing activities) on hydrology?
- I am in favor of recommending all potential wild and scenic river segments at the highest levels possible. If a state wild and scenic river program exists, I recommend considering other segments for state designation.
- What municipal watersheds and other drinking water sources exist on the GWNF? Are management activities and uses in these areas compatible with protecting high quality drinking water?
- The GWNF Plan Revision must take into account Clinton executive orders on riparian areas and floodplains.
- How is the water quality in streams, lakes, and other waterbodies protected?
- How do management activities and uses affect changes in water temperatures?
- How do management activities and uses contribute to channel alteration and disruption of water flows?
- How do management activities and uses contribute to accumulation of sediment?
- How do management activities and uses affect state and local water laws and regulations and compliance with the Clean Water Act? How do management activities and uses affect impaired waterways or recovery of impaired waterways? How do management activities and uses affect chemical composition of waterbodies?
- How do topography, geology, soils, climatic conditions, management objectives and other factors affect water quality and management practices?
- What are existing uses of water in the GWNF and water flowing from the GWNF? How do management activities and uses on the GWNF affect existing uses of water? State, local and federal anti-degradation policies?
Consider the Sierra Club v. Glickman (1997, E.D. Texas) case, which found that even-aged management sites, as managed by the FS, produce increased run-off of water and soil for many years ater clearing before there is a return to normal run-off levels (p. 28) Sierra Club v. Glickman found that water runs with increasing velocity away from even-aged sites towards surface water bodies like streams, carrying large quantities of the topsoil and nutrients contained therein. (p. 34-35).
- Do the management activities and uses in the GWNF maintain viable aquatic vertebrate populations?
- How do the management activities on the GWNF affect riparian areas and riparian-dependent species and resources? How will riparian areas be maintained and enhanced? How are riparian areas defined on the GWNF and do current definitions/allocations fully protect riparian areas when they are wider than a fixed measurement? Have riparian areas and associated management areas been fully delineated and allocated? Do maps exist?
- The plan revision should pay special attention to the role of headwaters and upper reaches of streams at maintaining water quality and ecosystem health. Headwaters and upper reaches of streams should be adequately protected in the plan revision.
- The GWNF should consider recent research in the Chattahoochee NF and Region 8 that show that headwaters and upper reaches of streams play a much more

important role in maintaining the health of ecosystems than previously thought.
- What are the past and current sources of water degradation and how will the plan revision address these?
- What is the erosion potential of watersheds? The potential for mass movement? The potential for puddling (from heavy equipment)?
- How does the forest plan and revision avoid seriously and adversely affecting water conditions or fish habitat in locations across the GWNF?
- What watersheds have TES and MIS species, wild and scenic rivers, and other biological and resource values and how will the plan affect them?
- What are the distributions, trends, and health of aquatic species populations? What fish migration barriers exist? How does this affect genetic diversity? What management activities and uses are contributing to problems and how will they be addressed?
- What key spawning, reproductive, or other important life cycle areas exist for aquatic species exist? How are they affected by management activities and uses?
- What link is there between roadless habitat/wild forests and the strength of brook trout and other key aquatic species populations? How should roadless habitat and wild forests be protected?
- What is the cost of watershed restoration with and without various forms of logging? With and without roadbuilding?
- What areas of remote habitat exist on the GWNF? Remote areas for backcountry recreation? Semiprimitive areas? SPNM areas? Primitive areas? Bear featured management areas and management areas with designations that benefit bears and far-ranging species?
- I support the Roadless Area Conservation Rule and its implementation on the GWNF. The only changes I would make to it would be to strengthen it by
(a.) immediately protecting all uninventoried roadless areas that meet all technical (quantitative) criteria in FSH andFSM standards for roadless areas, provided those areas are 1,000 acres in size or larger, especially in the eastern U.S. where there are fewer roadless areas and where there is high demand for recreation in roadless areas and other primitive settings.
- (b.) banning off-road vehicles and off-road vehicle trails and surface mineral extraction in all roadless areas. ORVs and mining operations are highly destructive and are one of the major threats to public lands today, and
-(c) taking pro-active steps to restore heavily-roaded national forests, heavily-roaded portions of national forests, and former RARE II areas that no longer meet road density standards for roadless areas. Ranger districts with few or no roadless areas should designate 35-40% of the RD as " roadless restoration areas" where road obliteration, stream restoration, and other ecological restoration techniques are used to return the land to a healthy and wild condition.
- The GWNF should consider alternative(s) that protect all inventoried, uninventoried, and potential roadless areas ("roadless restoration areas") thus. Such an alternative should be considered and selected by local planners (i.e. the GWNF) whether or not the RACR is upheld, and whether or not any changes to the RACR occur.
- The vast majority of the record 1.5 million people commenting on the RACR supported an end to logging and roadbuilding in roadless areas.
- Americans are opposed to logging in our national forests, and in our roadless areas. A national poll conducted in June 22-25 by Market Strategies, Inc. found that overall, 69% of Americans want logging of our national forests to end. A poll by the U.S. Forest Service in the southern Appalachians (1995) shows that 69% of residents want more wilderness designated. (SAA) Recent national polls (1998) show that 65% of the public wants to protect all remaining roadless areas. Polls show that

72% of people in Georgia and 62% of people in North Carolina oppose commercial logging in national forests. Polls in Indiana and Kentucky show that the majority of people in these states are opposed to commercial logging on public lands. A recent nationwide poll conducted by the Mellman Group, Inc., found that 63% of Americans support a proposal to protect all roadless areas over 1,000 acres in size. More than 70% of Americans favor a ban on oil drilling, logging and mining in roadless areas. The same poll also found that 67% of Americans believe that off-road vehicles should be prohibited in roadless areas. The polls showed that there is strong sentiment for protecting roadless areas, and that this transcends region, gender, and political party identification.

- How many areas in the GWNF could qualify as primitive areas? How many areas in the eastern US? The GWNF is lacking in primitive areas. The GWNF should examine the feasibility of designating primitive areas and the feasibility of creating new primitive areas by obliterating roads around the largest roadless areas in the GWNF. If areas are still too small, the GWNF should consider protecting additional clusters of roadless areas and/or SPNM areas across the GWNF to mitigate the loss of these areas.
- There is a high demand for roadless areas, wilderness areas, dispersed recreation areas, adventure recreation/backpacking areas in the eastern U.S. (esp. region 8 and region 9) See TWS letter 11/27/96, TWS letter 6/27/97, TWS letter 12/6/96, TWS/SAFC/SELC letter Oct. 3, 1997, PAW letters dated 3/30/98 with enclosures, TWS et all., Va. Mtn. Treasures, 1999, and Cong. James Hansen Dear Colleage Letter, Apr. 22, 1997, submitted to the Washington office of the FS in response to the Roadless Area NOI, 1999). The eastern U.S. has been typically underrepresented in wilderness and roadless area protection. There is a tremendous need to link up and protect remaining eastern wildlands. If the threshhold for roadless areas in the east is set at 5,000 acres or larger a great number of deserving roadless areas will not receive adequate protection. All areas of any size ought to be protected.
- The Appalachian national forests, and many of the Appalachian roadless areas, lie at the headwaters of the eastern watercourses and provide drinking water, fisheries, and aquatic diversity for much of the heavily populated east. (See SAFC/PRC, Streams of Diversity, also submitted to the WO with the above 1999 letter) It is critical that we protect these watersheds to the highest degree possible.
- The southern Appalachians is one of the most biodiverse regions in the country (TWS, et al. Va. Mtn. Treasures) and is under threat from air pollution, encroaching development, exotic plant invasion and a number of other threats. The roadless areas of the southern Appalachians should be of high priority. Protection of roadless areas here can provide a baseline for research and can serve to protect ecosystems from some threats.
- The FS should consider all species in the Appalachians known to rely on roadless forests or the clean water flowing from them. Species such a black bear, a wide-ranging mammal, neotropical migratory birds, and key aquatic indicator species such a freshwater mussels should receive high consideration. See TWS letter 11/27/96, TWS letter 6/27/97, TWS letter 12/6/96, TWS/SAFC/SELC letter Oct. 3, 1997, PAW letters dated 3/30/98 with enclosures, TWS et all., Va. Mtn. Treasures, 1999; ARC's Mon. NF "Roadless Opportunity Area" report, SAFC, Streams of Diversity, all submitted with above letter to WO) Continued development of these areas is negatively affecting a number of species critical to the ecosystems of the east. Roadless areas should be identified and protected; clusters of roadless areas, especially those that can be linked by wildlife corridors or other public lands, should be identified and protected.
- Some of the largest and most significant roadless areas in the east have already

been whittled down significantly by logging, development or arbitrary boundary changes. For example, the 36,000 acre Cranberry RARE II area in the Monongahela NF was approx. halved, the 36,526 acre Big Schloss RARE II area in the G. Washington NF (Va./W.Va.) was reduced by 43% to 20,755 acres. Crawford Mtn. RARE II in the G. Washington was reduced by 31%, Dry River RARE II area was reduced by 31% and Eliott Knob was reduced by 28%. Roadless areas in high timber districts in the GWJNFs have been arbitrarily dropped. It is critical that we save all of these roadless areas and the rest of the unprotected roadless areas regardless of size. The maximum number of roadless areas should be inventoried as roadless, recommended to Congress for wilderness status or otherwise protected from extractive development, roadbuilding and motorized use to the extent possible.
- The FS must examine all areas of any size that are potentially eligible for roadless or wilderness status. A detailed, site-specific inventory of all roadless areas on the GWNF should be conducted. The FS should determine what roadless characeristics and roadless criteria apply for all such areas. Land belonging to other agencies should be considered as well if adjacent to potential roadless areas on the GWNF. In addition to inventorying roadless areas, the FS should determine eligibility of roadless areas for wilderness status, and make recommendations.
- The roadless inventory should include site-specific and in-the-field analysis, rather than boilerplate language.
- In many ways, previous "analysis"of roadless areas, such as RARE II and other analyses, were inadequate and were biased against wilderness designation. For example, California v. Block found that the entire RARE II process was skewed against wilderness. The plans of the 1980s were widely acknowledged to emphasize natural resources development over protection of biological resources. The FS needs to go into the field, identify any overlooked roadless areas and apply up-to-date biological science to the analysis.
- Several studies of wildlands in the GWNF have been conducted or initiated. The FS should examine the Wildland Project's study of the greater Chesapeake Bay watersheds (including sections of the GWNF), on the subject.
- The FS should examine the economic impacts, including the net present value of roadless areas (See also the Economics section of this letter). Impacts of roadless areas on tourism and recreation should be considered.
- The FS should analyze the wildlife, native plants and other resources and characteristics of roadless areas.
- The FS should analyze the fisheries and watershed values of roadless areas.
- Congress expressly desired wilderness areas to be designated in eastern NFs like the GWNF, as evidenced by the language of the Eastern Wilderness Act and the Endangered American Wilderness Act.
- OHVs and off-road use of four-wheel drives are not appropriate on public lands such as the GWNF. Before any OHV or 4X4 use of the GWNF is considered, the FS should consider the following regarding OHVs, motorized use, motorized routes/trails, and special use permits for OHVs before any future permitted use is entertained, or before any existing use is allowed to continue:
- The FS should examine the increasing horsepower of OHVs and the increasing destructive ability of OHVs in recent years.
-What will be the mix of user groups on these trails? What will be the frequency of encounters, esp. between motorized and non-motorized users?
- Specifically, what will be the impact of the amount of use on the adjacent setting?
- What are the intended volumes? Are the intended volumes appropriate or excessive based on resource contraints?
- What is the trailhead capacity at each trailhead? How long will each trailhead be used? How can volume be successfully controlled at each trailhead? Will attempts

to control volume at trailhead create problems here or elsewhere (e.g. illegal use,overflow use, user conflicts, etc.) What impacts will the temporary and permanent access areas create? Long term? Short term? Forest fragmentation? Will the temporary access routes become "de facto" permanent access route. Can temporary access routes be successfully closed?
- How will litter be disposed of at the trailheads, access routes, along the trail and along illegally used routes? Can the volunteers be expected to clean all the litter?
- How many law enforcement officers are available to patrol the OHV areas? How frequently? Will this effectively control resource damage, resource/user conflicts and littering associated with OHV use? How will this be incorporated into decisions?
- Have law enforcement officers been able to effectively control resource damage, resource/user conflicts and littering associated with OHV use elsewhere in the GWNF?
- How much damage to resources have other OHV trails on the GWNF and in the Appalachians created? How much user conflict? Safety problems? Riparian area damage? Litter? Other problems?
- What other plans for the areas does the FS have? How will the motorized uses affect them?
- How wide will the trails be? How large a prism ? What amount of cut and fill will be required ? What methods will be used to construct the trail? I am concerned about resource damage and aeshetics at all stages.
- How will the FS prevent users from leaving the trail to avoid objects blocking the trail (trees, debris, etc.) OHVs often veer off of trails for these reasons (or for no apparent reason) and consequently create serious impacts to areas surrounding trails.
- How will the trails be funded? Nationwide, only 40% of NF roads are being properly maintained each year. $150 million is needed to properly maintain FS roads each year. An additional $440 million is needed to address the current FS road backlog. (American Lands) During a recent three year period, the FS spent $1.2 billion on timber sales and only $157 million was returned to the Treasury. (GAO rept RCED-99-24) The proposed funding will not pay for all of these additional costs.
-Will any trails be funded for 100% motorized use or some motorized use and some non-motorized use? If the latter is the funding basis, then what amends will be made if motorized use drives non-motorized use off of the land due to conflicts?
- What alternative facilities exist or could exist on private lands?
- How much traffic congestion would the any trail systems create on roads and on the trails themselves?
- What trespassing on the private lands of adjacent landowners occur? What other problems could occur?
- Would any trails lead to increased defecation and litter in the woods?
- What are the major factors influencing recreation (eg attractiveness, "usable" area, capacity, season of use) and how will these factors affect demands for this project and potential and alternative uses/users of the area?
- Will trails lead to overuse of the OHV trail and nearby FS roads? Will it create safety problems on these roads/trails? Resource damage?
- How will the FS control illegal use off of trails and off of nearby roads? By physical barriers? By regulations? By law enforcement? Will any of these methods be successful?
- What amount of rainfall and snow does do trail areas receive? Could this affect conditions on the trail or lead to resource damage?
- How will shallow soils and fragile soils be protected? (Where and how?)
- How will human-caused fire hazard be increased? (Site specific analysis)
- Do trails maximize social and economic objectives, such as maximum recreation

benefits and reduced administrative costs?
- OHVs create an unacceptable amount of resource damage for no other purpose than weekend entertainment.
- OHVs greatly increase the range of human activities into remote areas, increasing the human presence in areas key habitat area for certain species requiring freedom from disturbance.
- OHVs cause intense soil disruption, leading to compaction and erosion.
- OHVs lead to removal of vegetative cover and increased compaction, which inhibits plants' abilities to grow.
- Riparian areas are commonly damaged when OHVs drive through a stream, increasing bank erosion, disturbing the stream bed and increasing turbidity.
- Noise created by OHVs impacts the daily activities of wildlife, increases wildlife metabolism and energy consumption and interferes with hearing.
- OHVs damage the root systems of plants.
- The extensive erosion, rutting, gullying, noise disturbance, stream siltation, wildlife injury and other problems created by OHVs cannot be easily mitigated by the FS.
- The FS should explicitly provide or set aside adequate funding for monitoring and enforcement as a budget item. This should clearly disclosed in economic analysis, protection analysis and elsewhere. The FS should disclose if funding can be assured into the future or such use should not be permitted.
- OHVs are dangerous vehicles due to the design of the vehicle, the speeds at which these vehicles drive, the terrain on which they drive, and the distance from life-saving facilities for most OHV routes. If the FS permits OHV use in the GWNF, it can be held liable for injuries and deaths resulting from accidents. The FS needs to evaluate whether the proposed route are especially dangerous routes before approval.
- Since many OHV drivers carry no insurance, the FS needs to address the issue of who will pay for damage resulting from OHV/traditional vehicle collisions. The costs of FS liability insurance and/or possible settlement costs should be included as part of the budget for OHV proposals.
- The FS needs to evaluate the effect of OHV use on local rescue squad crews, availability and resources.
- Engine size should be limited to 75cc to minimize environmental damage and hazardous high speed driving.
- The FS should evaluate air quality effects, including increased pollution caused by OHV engines.
- Evaluate impacts of increased vandalism.
- ORV related proposals must comply with Executive Orders 11644 and 11989. The FS must insure that areas and trails are located so as to minimize damage to soil, watershed, vegetation and other public resources; minimize harassment of wildlife or other significant disruption of wildlife habitats; and to minimize conflcts between OHVs and other existing or proposed recreational uses and to ensure the compatibility of OHV use with existing conditions in populated areas. Monitoring is required and immediate closure is required when considerable adverse effects have occurred.
- Proposals should conform with the AIRFA, the ARPA and NHPA. Appropriate surveys should be taken to determine whether important cultural, archaeological, religious, or historic sites or landmarks exist. These sites must be protected. (EA provides only references to inadequate site specific surveys and monitoring)
- The FS should insure that the proposal would not cause public inconvenience, annoyance or alarm by allowing unreasonably loud noise levels. (FS Regs) This and other regulations should be regularly and consistently enforced .
- The FS should disclose whether it has been able to control illegal use of OHVs in

WAs, roadless areas, along creeks and in other sensitive areas.
- What impacts to wildlife, native plants, invasive species, soils, watersheds, water quality, non-motorized recreation and other resources as a result of roads, motorized trails, skid trails, and other access routes on the GWNF?
- How effective have closure and obliteration methods been on the GWNF? What routes need to be closed and/or obliterated to protect resources?
- How effective has monitoring been? Design features and mitigation measures? Law enforcement? What changes need to be made to better protect resources damaged by roads and access routes?
- What are the economic impacts of road construction, reconstruction, maintenance and use on the GWNF? What are the economic impacts (considering all costs and benefits - see economic section) of the various forms of roads and access routes used on the GWNF? Those constructed many years in the past?
- What are the ecological impacts of various grades of roads and access routes?
- The FS should complete the roads analysis process required for the GWNF, allow the public to comment on the draft version, and incorporate the roads analysis process into the plan revision, as a means of identifying the road system on the GWNF, identifying unneeded roads, determining environmental impacts of roads, identifying the economic costs of roads, and other priorities.
- The FS needs to identify existing open road densities, total road densities, and motorized route densities and disclose impacts on the resources of the GWNF.
- What illegal, potentially environmentally destructive, and improper use of trails, routes, and off-road areas is occurring and what are the impacts?
- What non-motorized and non-consumptive uses of the GWNF are occurring? What are the trends? What types of trail experiences, landscapes, viewsheds, wildlife viewing opportunities and other opportunities do users expect or desire? What ROS classes? What management activities and uses adversely affect this experience?
- What is the carrying capacity of wilderness areas, dispersed areas, or primitive recreation areas? How does the plan
affect these?
- How is increasing environmental awareness and new appreciation of nature affecting what the public wants on the GWNF and how the public uses the GWNF (for example, interest in birding and nature watching)?
- MUSY calls for "the management of all the various renewable resources so they are utilized in the combination that will best meet the needs of the American people; making the most judicious use of the land for some or all of these resources... and harmonious and coordinated management of the various resources, each with the other... with consideration being given to the relative values of the various resources..." The Forest Service must "identify environmental effects and values in adequate detail so they can be compared to economic and technical analyses... <u>Study, develop, and describe</u> appropriate alternatives to recommend courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources..." 40 CFR 1501.2(a)&(b)(underlining for emphasis). See also 16 USC 1604(g)(3)(A). MUSY requires the Forest Service to "provide sufficient latitude... for changing needs and conditions." Non-extractive recreational uses, wildlife watching, hunting, and fishing may have a higher relative value than timber.
- What is the demand for dispersed and non-motorized recreation under various logging and non-logging levels?
- What is the impact of ski resorts, motorized winter recreation, and other high impact winter recreation on winter wildlife, other wildlife, water levels, soils, watersheds, water quality, noise, vegetation, high altitude ecosystems, forest fragmentation, non-motorized recreation, and other resources? How do management activities, uses, permits, access routes, and other activities on the

GWNF impact ski resorts, motorized winter recreation, and high impact winter recreation and resources on the GWNF?
- Evaluate all reasonably anticipated impacts of approved and anticipated management activities and uses on soil resources (including erosion, compaction, soil movement, puddling, organic matter content, burning, etc.). At what level are detrimental soil conditions occurring? At what level are significant impacts to soils occurring? At what level are irreversible or irretrievable impacts to soils occuring? What are the cumulative effects on soil resources? What monitoring has taken place? Is monitoring adequate? What additional analysis is needed? What is the condition of the GWNF's soils compared to any GWNF Plan, R-8, or other FS or state soil standards, requirements, or guidance? What remedial work needs to be done?
- Is any permanent impairment of soil or water likely in any areas? Is conservation of soil and water resources assured?
- Are there any areas where road slumping is occurring or likely?
- Identify soils that are at high risk of landslides or other serious soil problems.
- All NFMA laws and regulations regarding suitability should be followed.
- The FS should utilize thorough, sound analyses to ensure that all areas that are physically unsuitable for logging (due to soil, water, restocking/regeneration, or other concerns) are properly identified in the plan revision..
-- The FS should utilize thorough, sound analyses to ensure that all areas that are economically unsuitable for logging (due to transportation, logging, adminstration or other costs) are properly identified in the plan revision..
- What investments are required for timber production, including precommercial thinning, brush control, invasive species control, mitigation, road maintenance, tree planting, etc.?
- The FS should examine all pertinent factors when determining suitability, including that of precluding alternative uses of land.
- What area of the GWNF have soils, slopes, other soil or geologic conditions and watershed conditions that are susceptible to serious adverse or irreversible damage?
- Alternatives and prescriptions should be developed that assign unsuitable or questionable portions of the GWNF for custodial management (no outlays except fundamental protection). Other areas could be placed in custodial management prescriptions for ease of management.
- Consider the studies of Thomas Power, economics professor at University of Montana; Karen Moscowitz, economist, and others who have found that the amenity values of natural forests (including income generated from recreating and choosing to live near forests and public lands) usually always exceeds the value of logging and extractive development in various study areas.
- The FS should compare the full costs and benefits of various habitat manipulation methods used (and no action).
- All important visual corridors, including trails, waterways, scenic highways, historic, and popular sites, should be identified and appropriate aesthetic standards that protect these areas should be developed.
- NFMA directs directs the FS to protect the forest's visual resources when enacting a plan. Aesthetic resources are one of the key resources to be protected under NFMA. Clearcutting and even-aged logging can used "only where" these methods are carried "out in a manner consistent with the protection of esthetic resources" NFMA 6(g)(3)(F)(v) and 1604(g)(3)(F)(v). In addition the statute requires that clearcutting and other even-aged harvesting methods are used "only where" "cut blocks, patches, or strips are shaped and blended to the extent practicable with the natural terrain." NFMA 6(g)(3)(F)(iii), 1604(g)(3)(F)(iii). The language "only where" leaves no reason for discretion.
- Some cutting and yarding methods and prescriptions, including many even-aged

(clearcutting variants) prescriptions are highly visible. The FS should explain whether these are consistent with NFMA and should be permitted at all.
- "[P]eople expect to see a naturally appearing character within each general region" (VMS Handbook Vol 2, p 2). Such areas should be emphasized across the forest.
- The GWNF should incorporate the new Scenery Management System into the plan revision. See the new Scenery Mgmt. System handbook which states that remote, rarely visited areas can have high scenic value. People pass through the area when traveling to the New River or many walk, ride or bicycle the many trails in the area.
- The new SMS requires that visual and noise impacts be considered,
The FS should consider people's expectations when evaluating what visual impacts should be permitted where in the GWNF.
- What are the adverse impacts of mineral development, including coal, hardrock, limestone, oil and gas development? How will the FS protect surface resources, including surface geology, forests, soils, watersheds, viewsheds, recreation; and caves and associated resources? What portions of the GWNF should mineral development and/or surface occupancy be prohibited in, including roadless areas, semiprimitive areas, unique biological , cultural , historical or other areas, old growth forests, scenic areas, NRAs, W&S river candidates, and other important areas? What impact will subsurface mining have on surface resources (including subsidence)?
- What are the adverse impacts on resources from new and/or untested forms of mineral development such as coal bed methane drilling? What are the impacts of these developments on watertables and surface resources?
- Regarding grazing: Consider protection and restoration of high elevation forests, balds, and riparian areas.
- Consider reducing the continued state of forest fragmentation induced by grazing
- Consider alternative open field management methods and varying degrees and methods of native forest restoration and balds restoration.
- Protect all streams, wetlands and stream banks and important native plant species, animal species and ecological communites.
- Fences can inhibit wildlife and recreational movement. Fences detract from the aesthetic beauty and naturalness of area. Evaluate the appropriateness of fences and pastures on public land.
- Grazing fees may be too low. Do permittees pay market rates? What share of full costs do permittees pay?
- There may be conflicts with camping and other recreational uses which should be considered.
- Grazing may contribute to the spread of exotic plants. Consider whether this is occurring.
- What rare plants and animals require grazing to maintain habitat in the GWNF. Which rare plants and animals are negatively impacted by grazing in the GWNF?
- Public lands should provide goods and services which cannot be provided by private lands, not subsidized or provide for red meat production.
- How does grazing affect PETSLR species? What PETSLR species habitat has been displaced by past/current activities?
- How does grazing affect trout, other aquatic species and water quality?
- Analyze the amount of time for forest ecosystems to be substantially restored at various grazing levels including the zero grazing level. Do cattle affect the soil in any way that impedes the restoration of native ecosystems (forest or non-forest)?
- What are the carrying capacities for grazed areas, including wildlfe? Are carrying capacities being exceeded?
- Does grazing affect the restoration of native spruce-fir, spruce, northern hardwood and cove hardwoods? Regeneration?

- Do cattle contribute giardia, fecal coliform,or other contaminants to streams?
- How does grazing affect remote habitat, wilderness/non-wilderness interface, forest interior habitat, forest interior habitat and edge effect along wilderness boundaries, roadless areas, semi-primitive areas and special areas?
- Consider grazing permits that do not allow road use. Consider closing and revegetating roads.
- What impact does cattle grazing have on soil, soil organisms, compaction levels, erosion, watershed quality, or roots of trees, herbaceous plants and shrubs?
- Grazing should not be allowed in woods (even so-called "secondary areas") due the potential harm to forest ecosystems, roots of trees, and native plant and animal species that live in the woods.
- How does grazing affect lichens, fungi and other small organisms that live in forests, on rocks and boulders, in open or semi-open areas or along streams?
- How will the grazing affect old growth and mature forest ecosystems?
- Have permittees complied with the GWNF Plan, permits, and applicable laws and regulations? What has monitoring revealed?
- Consider impacts to stream banks.
- Consider impacts to drinking water.
- How could springs be damaged by grazing? Bogs? Riparian areas? Intermittent streams? Seeps?
- What effect does grazing have on soil moisture retention, structure, and nutrient leaching.
- Are grass species native species? What are the overall impacts of grazing, and the above items on diversity, soils, and watersheds?
- How can the GWNF meet goals of energy conservation, recycling, reuse of materials, and environmental sustainability required in laws, regulations and executive orders?
- How should important areas of the GWNF be managed, such as important backcountry areas, roadless areas, and areas of remote habitat for wildlife? Will natural, wild values in these areas be protected/
- Should RNAs be established for important forest, shrubland, aquatic, and geologic types? Are unique characteristics protected, including areas of adequate size and distribution? Will natural, wild values in these areas be protected?
- What are the social effects of herbicide and insecticide spraying?
- Will the actions taken in the plan revision move the forest towards its 50 year goals or away from them (GWNF Plan)?
- How will management activities affect treaties and reserved rights with native American tribes? Were the parties involved with treaties in this area rightfully able to sign away lands and are treaties valid? What historical evidence demonstrates this?

- Consider executive order 11988, 11990, 12898, and 13112.
- The FS must consider direct, indirect, cumulative effects and connected actions.
- The effectiveness of standard mitigation measures and design features should be demonstrated.
- The FS should comply with laws and regulations related to information quality in this analysis.
- Areas that consistently produce below cost timber sales should be considered economically unsuitable for timber production.
- What are the economic trends for timber sales and other projects over time?
- Monitoring and analysis for this revision should cover an ecologically-appropriate scale.
- A full range of alternatives should be offered. The FS should avoid lumping

undesirable or unlike subsets of alternatives together in order to avoid consideration of larger issues or to neutralize support for certain alternatives.

The FS planning process should be consistent with the following sections of NFMA:

(National Forest Management Act Of 1976 Sec. 6)

inventories of the applicable resources of the forest (National Forest Management Act Of 1976 Sec.6)

identification of the suitability of lands for resource management (National Forest Management Act Of 1976 Sec. 6)

obtaining inventory data on the various renewable resources, and soil and water, including pertinent maps, graphic material, and explanatory aids; (National Forest Management Act Of 1976 Sec. 6)

methods to identify special conditions or situations involving hazards to the various resources and their relationship to alternate activities (National Forest Management Act Of 1976 Sec. 6)

insure consideration of the economic and environmental aspects of various systems of renewable resource management, including the related systems of silviculture and protection of forest resources, to provide for outdoor recreation (including wilderness), range, timber, watershed, wildlife, and fish; (National Forest Management Act Of 1976 Sec. 6)

provide for diversity of plant and animal communities (National Forest Management Act Of 1976 Sec. 6)

provide, where appropriate, to the degree practicable, for steps to be taken to preserve the diversity of tree species similar to that existing in the region controlled by the plan; (National Forest Management Act Of 1976 Sec. 6)

insure research on and (based on continuous monitoring and assessment in the field evaluation of the effects of each management system to the end that it will not produce substantial and permanent impairment of the productivity of the land; (National Forest Management Act Of 1976 Sec. 6)

(E) insure that timber will be harvested from National Forest System lands only where- "(i) soil, slope, or other watershed conditions will not not be irreversibly damaged; "(ii) there is assurance that such lands can be adequately restocked within five years after harvest; (National Forest Management Act Of 1976 Sec. 6)

protection is provided for streams, stream-banks, shorelines, lakes, wetlands, and other bodies of water from detrimental changes in water temperatures, blockages of water courses, and deposits of sediment, where harvests are likely to seriously and adversely affect water conditions or fish habitat (National Forest Management Act Of 1976 Sec. 6)

(F) insure that clearcutting, seed tree cutting, shelterwood cutting, and other cuts designed to regenerate and even-aged stand of timber will be used as a cutting method on National Forest System lands only where- "(i) for clearcutting, it is determined to be the optimum method, and for other such cuts it is determined to be appropriate, to meet the objectives and requirements of the relevant land management plan; "(ii) the interdisciplinary review as determined by the Secretary has been completed and the potential environmental, biological, esthetic, engineering, and economic impacts on each advertised sale area have been assessed, as well as the consistency of the sale with the multiple use of the general area; "(iii) cut blocks, patches, or strips are shaped and blended to the extent practicable with the natural terrain; "(iv) there are established according to geographic areas, forest types, or other suitable classifications the maximum size limits for areas to be cut in one harvest operation, including provision to exceed the established limits after appropriate public notice and review by the responsible Forest Service officer one level above the Forest Service officer who normally would approve the harvest proposal: Provided, That such limits shall not apply to the size of areas harvested as a result of natural catastrophic conditions such as fire, insect and disease attack, or windstorm; and "(v) such cuts are carried out in a manner consistent with the protection of soil, watershed, fish, wildlife, recreation, and esthetic resources, and the regeneration of the timber resource. (National Forest Management Act Of 1976 Sec. 6)

identify lands within the management area which are not suited for timber production, considering physical, economic, and other pertinent factors to the extent feasible (National Forest Management Act Of 1976 Sec. 6)

Specifically, how will the above be achieved and conducted, consistent with NFMA?

Freshwater Mussels

- According to a study commissioned by the American Fisheries Society Endangered Species Committee, there are "297 native freshwater mussels [in the U.S. and Canada], of which 213 taxa (71.7%) are considered endangered, threatened, or of special concern... and only 70 (23.6%) as currently stable... Freshwater mussels (also called naiads, unionids or clams) of the families Margaritiferidae and Unionidae are worldwide in distribution but reach their greatest diversity in North America with about 297 recognized taxa... During the past 30 years, numbers both of individual and species diversity of native mussels have declined throughout the United States and Canada. Freshwater mussels (as well as other aquatic species) are emperiled disproportionately relative to terrestrial species... This alarming decline, the severity of which was not recognized until recently, is primarily the result of habitat destruction and degradation associated with adverse anthropogenic activities." (Williams, Warren, Cummings, Harris and Neves, 1993
- At its peak, the James spinymussel (Pleurobema collina) was distributed from a location a few miles upstream of Richmond, Va. and throughout the James River basin upstream. Since that time, its range has been reduced by approximately 90% (Clarke and Neves, 1984) The James spinymussel now survives in a few tributaries of the James. (Terwilliger, 1990
- Water quality can greatly affect the suitability of mussel habitat. Road construction is one of the most detrimental activities impacting mussels (Hove and Neves, 1994, see enclosure) A section of Virginia's Endangered Species edited by Dr. Neves acknowledged poor logging and roadbuilding practices within the national forest are a threat to the spinymussel in one watershed. He stated that "activities in Jefferson National Forest likely to affect the streams in which Pleurobema collina lives should be monitored by the United States Forest Service." (Terwilliger, 1990).
- The James spinymussel depends on fish species such as the bluehead chub (Nocomus leptocephalus), rosyside dace (Clinostomus funduloides), satinfin shiner (Cyprinella analostana), rosefin shiner (Lythurus ardens), central stoneroller (Camptostoma anomalum), blacknose dace (Rhinichthys atralulus) and mountain redbelly dace (Phoxinus oreas) in order to reproduce, so potential impacts to these fish species should have been considered as well. These fish serve as the prime fish hosts for young developing mussel larvae, called glochidia (Terwilliger, 1990, p. 254; Hove and Neves, 1994) See also George Washington and Jefferson National Forest T & E Mussel and Fish Conservation Plan, in your possession, incorporated by reference (Mussel and Fish Conservation Plan), 6 & 31: " The decline of fish host species may present a problem in mussel reproduction." There is no monitoring or analysis of impacts to host fish.
- James spinymussel females usually produce significantly fewer glochidia than other mussels. Female mussels release glochidia during a short period from early June to through late July. Water temperature and springtime water flows are believed to be important factors as far as James spinymussel reproduction is concerned. (Hove and Neves, 1994, p. 34 & 37) The timing of activities and longevity of impacts should be of concern. There is no attempt to mitigate such effects or monitor such effects over the long term.
- Pesticides and contaminants have long been recognized as a threat to mussels (Williams et al 1993; see also EPA, "Protecting Endangered Species," EPA Rpt. #21T-3055, June 1992, for example, for the adjacent county in Va., Craig County) There is no information in the EA on what contaminants from the sites might flow into waterways inhabited by mussels or the impacts of herbicide release necessitated by this project, or cumulative impacts. (EA)
The FS should follow all provisions of GWJNFs T&E Mussel and Fish Conservation Plan, the ESA, and James spinymussel recovery plan regarding the protection and monitoring of freshwater mussels. The FS is required to ." "Maintain a stable and/or increasing population trend for Blackside dace and James spinymussel."(Conservation Plan) but there are serious doubts evident as to whether this is occurring. The '99-'00 GWJNFs M&E Rpt states "Throughout the Craig Creek drainage, P. collina numbers are declining (Pers. Comm. Neves 12/5/00)" (p. G-75) (incorporated by reference, already in your possession, enclosed as an attachment our previous (2nd) Little Mountain timber sale appeal). See also '01-'03 GWJNFs M&E Rpt G-67, already in your possession, incorporated by reference. See also the email from Dawn Kirk (GW&JNFs Staff Fisheries Biologist) regarding her conversation with Dr. Neves. It appears that Dr. Neves believes that sediment is the probable cause of the decline. According to the e-mail, [Neves] "said it is a downward trend in Johns Creek and the whole Craig Creek drainage." Kirk also states that based on the conversation, she does not believe that there is

a viable population of James spinymussels on the Forest or that there ever will be one without "massive augmentation." (incorporated by reference, already in your possession, enclosed as an attachment our previous (2nd) Little Mountain timber sale appeal).
The yellow lance, is a G2G3 S2S3 species in Va., and the roughhead shiner, is a G2G3 and S2S3 species. The roughhead shiner is confined to the Ridge and Valley province of the upper James drainage, Virginia…The contiguity within subpopulations and the sharp limits of the range of the species indicate that high gradient and small size of stream, turbidity, and siltation variously combine to effect the tight distribution of the roughhead shiner (Jenkins and Burkhead, 1975a)" Terwilliger (1991). The roughhead shiner is a sensitive species (R-8 sensitive species list).
- The past and current state of biotic populations and water quality of perennial streams, and intermittent and ephemeral tributaries, even if a "fishery" may be absent, are important.

- "The effects of sediment delivered to a stream channel diminish as watershed size increases. Most vulnerable are small sensitive headwaters catchments where concentrated timber harvest activity can have profound results. . . . After four years, sediment rates are normally back to predisturbance levels. However, once sediment is deposited in a stream channel, its effects can persist for decades or even centuries (Frissel, 1996)." (JNF Enterprise TS EA-42; incorporated by reference) So this project may result in significant impacts to channel condition and population viability or distribution.

- TESLR Freshwater mussels and other TESLR aquatic species, or impacts to these species, are not adequately analyzed; these species are not protected.

Karst :

The possible presence of karst resources necessitates a high level of NEPA analysis and protective measures. For example, in the Hagan Hall project in this RD, Tom Collins, JNF SO Geologist recommended that the following mitigating measures be considered in one or more of the action Alternatives: "no landings or roads in the karst area, no timber ... harvested in the karst area, [and] no helicopter service area ... in the karst area." due to the sensitivity and rarity of these terrains on FS land (Hagan Hall EA Geol. Ex. Cond.-1, already in your possession, this volume is incorporated by reference in its entirety) Collins says "Karst and karst ecosystems are unusual, involving a complex interaction of surface and subsurface processes." Collins describes how easy it is for surface water, including sediment and contaminants, to enter ground water in karst terrain. Ground surface also has the potential to collapse, creating new sinkholes. (Geol. Ex. Cond.-2-3) The mitigation methods do not avoid all the problems Collins refers to: increased trash at the logging sites, risk of contaminants from helicopters, chainsaws, etc., damage to the subterranean groundwater system, etc. (Geol. Ex. Cond.-5 and throughout) Logging and skidding in these areas, esp. near sinkholes, will have long-term negative impacts to karst. We are concerned that after the project is complete, skid trails and other logging infrastructure will remain a long-term source of sediment and contaminants that cannot be mitigated. And there is the potential for sinkhole expansion and new sinkholes near roads, skid trails, and landings and other disrupted areas. (Geol. Ex. Cond. bottom of p. 2 and top 1/3 of p. 3. Collins defines karst as "a type of topography formed in limestone and dolomite (carbonate bedrock) by the desolving of bedrock, eroding of underground spaces, and collapsing of the ground surface. Karst terrane is characterized by sinkholes, caves and underground drainage. Karst lands are unusual, involving a complex interactionof surface and subsurface process...)" (Geol. Ex. Cond.-2)

-The DNH's 11/13/98 letter regarding this same karst area in the Hagan Hall raises other concerns about karst that should be considered in the Back Valley analysis, since there may be karst here as well: "The springs which feed the fisheries-supporting tributaries to Stony

and Staunton Cr. should be monitored for visual turbidity and temperature over time by Forest Service staff familiar with the historical range of flow conditions associated with these streams. These streams are most likely connected to the cave environments in some way and should be assessed during pre-planning, harvest and post-harvest stages of this project. Field reconnaissance for springs should be focused along the branches of the Hunter Valley Fault which pass through the project, and concentrate on the groundwater flows from the surrounding recharge area (see geology map, DMR Publication 80) The integrity of karst groundwater is vital to the viability of the various aquatic habitats discussed in the EA. These springs, as well as well as those on down gradient private lands, could exhibit adverse adverse impacts even though the documented sinkholes are buffered from land disturbing activities." (underlining for emphasis)

And in its 11/18/98 comments on the Little Mtn. project, New Castle RD, another project with a down-gradient karst/cave environment, the DNH recommended "that the pre-harvest site evaluation include an inventory of sinkholes, springs, and other karst features on both public and private properties below the 2400 ft. contour elevation... [to be] accomplished through aerial photographic analysis and field reconnaisance.... A thorough evaluation of the karst areas on and adjacent to the proposed harvest sites will facilitate the design of effective BMPs and minimize damage to karst and water supplies."

"Caves and springs many miles away can be affected by logging 20 or more miles away and in different watersheds. For example, a timber sale could result in increased water entering a cave and in a major storm event, the increased water could result in a flood large enough to kill (i.e., drown) or harm creatures in the cave. Or it could kill someone exploring the cave. It could also adversely affect or kill creatures living in a cave or a spring by changing the temperature or increasing the sediment. The analysis of effects must also consider groundwater and subsurface water flow." 10/27/98 Heartwood comments on the Hagan Hall project, p. 8. These issues should be considered.

Cerulean Warbler:

- The cerulean warbler, is an area-sensitive bird (Southern Appalachian Assessment, Terrestrial Report); the cerulean warbler is experiencing the greatest annual decline of any of the warbler species and this significant decline is continuing. Studies have found cerulean warblers chiefly in "large tracts of mature, semi-open deciduous forest." Robbins, Fitzpatrick and Hamel, 1992. The authors of one study, affirm that there is a "need to protect extensive tracts of mature deciduous forest," especially on publicly owned land. See also excerpts from the Maple Springs Branch BE on the cerulean warbler (Clinch RD, GWJNFs, already in the agency's possession, incorporated by reference).
- Studies have found cerulean warblers in "large tracts, tall trees, and mature forest." ." (Cerulean Warbler Status Assessment April 2000). This habitat and adjacent tracts of mature forest may provide habitat for the cerulean warbler.
- The Southern Appalachian Assessment Terrestrial Report lists the cerulean warbler among "area sensitive, mid- to late-successional deciduous forest species" (SAA/TR-70, in the agency's possession, incorporated by reference). It predicts that "based on past trends in land use, it is expected that, over the next 15 years, suitable acreage [for these area sensitive species] and associated forest interior habitats will continue to decrease due to loss of forestland to other uses such as agricultural pasture and development."(SAA/TR-72) The cerulean warbler is found in a variety of deciduous forest types, usually in extensive woods. (Brandt, 1947; Peterjohn and Rice, 1991; Andrle and Carroll, 1988; Brooks, 1908; Mengel, 1965; Cadman et al., 1987; Torrey, 1896; Kirkwood, 1901; Maxon, 1903; Hann, 1937) Most often, its occurrence is recorded in forests with large, tall trees. (Lynch,1991;

Robbins et al, 1989; Wilson, 1811; Oliarnyk, 1996; Mengel, 1965; Andrle and Carroll, 1988; Robinson, 1996; Torrey, 1896; Schorger, 1927) "A change to shorter rotation periods and even-aged management," one of the 6 "chief constraints on the breeding ground" listed in Robbins et al., 1989. The intensive logging proposed in the Wilson Mtn project will eliminate older trees in many of the older stands in this PA.

According to USF&WS, "Ceruleans are routinely identified with large tracts, tall trees, and mature forest. For example, Lynch (1981) indicates minimum habitat requirements of the birds along the Roanoke River of North Carolina "to include: (1.) a closed canopy, (2.) presence of scattered, very tall old-growth canopy trees, and (3) good development of vegetation strata, i.e. distinct zonation of canopy, subcanopy, shrub, and ground-cover layers." (Cerulean Warbler Status Assessment April 2000). This project has the potential to alter or degrade these habitat characteristics in the project area through shelterwood logging, removal of large, old trees that are potential cerulean warbler nest trees in the course of thinning operations, and through other actions.

"Over the last 40 years, the Cerulean warbler population has dropped almost 82 percent throughout its U.S. range, making it the fastest declining warbler in the country. To put the decline in perspective, imagine the current U.S. population, which currently stands at 300 million, plummeting to 54 million by 2047. While 54 million peo still constitute a sizeable population, the fast plummet in numbers would be an alarming sign that our population was in danger.

"[N]ew information has come to light about the increasing loss and fragmentation of the Cerulean's eastern forest habitat from mountaintop removal mining [which takes place a short distance from this project, located in the Virginia coalfields region, ed.]. The Cerulean has declined an average of 6 percent per year over the last eight years, compared to an annual average of 4.3 percent from 1966 to 2004.

"A recent federal study noted that the loss of habitat for forest birds with core breeding areas in the Appalachian coalfields has "extreme ecological significance in that habitats required by these species for successful breeding are limited in the eastern United States."

"The Partners in Flight program has identified 15 songbirds with habitat in these forests as priority species for conservation, with the Cerulean receiving the highest priority."

(http://www.southernappalachianbiodiversityproject.com/index.php?option=com_content&task=view&id=218&Itemid=72)

Because logging and development projects are known to destroy or degrade the habitat of this exceedingly rare, declining warbler species. Adequate protective measures must be established.

Compliance with Old Growth Guidance:

Documents provided as Scoping Background Materials at:
http://www.fs.fed.us/r8/gwj/forestplan/revision/plan-home.shtml

(e.g. Forest Wide Standards and Forest Objectives) refer to Regional Old Growth Guidance (*Guidance for Conserving and Restoring Old Growth Forest Communities on National Forests in the Southern Region* (Forestry Report R8-FR 62, June 1997)). However, there is little rationale or justification for how or why the specific objectives or standards listed implement the R8 OG policy. Rather, standards and objectives appear plucked from the R8 guidance without proper context or discussion.

Further, while the standards and objectives in background materials address some of the requirements for OG contained in the Regional Guidance, there is a fundamental disconnect between these items and any process to develop these approaches. As pointed out elsewhere in comments submitted in the section **Environmental Analysis and Planning Process, Significant Issues and Alternatives,** the background materials essentially make up a highly detailed draft revised forest plan, complete with: forest-wide desired conditions, standards and guidelines. The materials appear to provide materials appropriate to later stages in the planning process without adequately engaging these issues with the public. This is in contrast to the R8 OG Guidance that outlines a process for seeking public involvement in addressing the old growth issue.

> The protection, restoration, and management of old-growth forests through an ecological approach is an important issue to many public interests and is a major concern to national forest managers. National forests should actively seek public input and participation while addressing this issue. During this involvement, national forest managers should begin to understand the public's perception of old-growth forests and their values. Other Federal agencies, State agencies, non-governmental organizations, and academia must be included when developing issues and strategies for old-growth forests. After the public scoping process and following the issuance of the notice of intent (NOI) to revise forest plans, the national forests will clarify and define the old-growth issues for each forest plan. The clarification should include land allocation concerns, biological values and requirements, and social values. Public involvement will be important in determining the areas to be allocated to old growth in the forest plan alternatives and in developing the desired future conditions and objectives.[5]

Developing a Network of Old Growth Areas

Elements of an old growth network are mentioned throughout the scoping background materials. However, the old growth network suggested in these references is inadequate under the R8 Guidance, fails to discuss and disclose issues where choices seem to have already been made, and has fundamentally left the public out of any process of developing an old growth network.

The old growth network suggested in the background materials consists of large, medium, and small patches as directed in the Guidance. However, there is no rationale for how and why the elements of this network are chosen or how the network addresses old growth issues or public concerns. The reliance on wilderness and recommended wilderness as the large patches seems arbitrary. It is flatly stated that the old growth network addresses distribution and representation issues, but no analysis is presented to substantiate this assertion. It is also unclear how medium and small old growth patches are to be selected during plan implementation to complement large patches and create an old growth network. There seems to be conflation of existing old growth with the initial inventory of potential old growth in discussing old growth patches.

Confusion of the concepts of Old Growth and mature forest

The background materials frequently use the concept of mature forest as virtually synonymous with old growth. Mature forest, variously described in the background materials as forest greater than 60 years and forest greater than 80 years is fundamentally different than old growth. But the background materials promote a conflation of these concepts. For instance the background document describing "Desired Conditions" makes this statement: "Mature or late seral forests are considered to be those forests that are in the later stages of succession and are generally synonymous with old growth. " [6] However, it is clear from the old growth guidance and associated literature that most mature forest does not and will not qualify as old growth for long periods of time. Age, structural, and other criteria distinguish old growth from "mature forest". Even much of the preliminary inventory of potential old growth will likely not qualify as existing old growth.

The literature cited in the old growth guidance makers it clear that most Southern Appalachian old growth forest is all-age forest as opposed to the even-aged mature forest typical of current national forest lands.

This is an important distinction for a number of reasons. Foremost is the fact that most mature forest is not quality "existing old growth" and will not be for many decades or centuries until it has substantially recovered not only age characteristics but structural diversity and an all-age composition. Treating mature forest in general as recovering old growth inflates what will qualify as existing old growth under R8 OG criteria. Secondly, this conflation ignores the fact that true quality existing old growth is one of the most under-represented forest components while mature forest 60 years and older is among the most abundant. Lumping and conflating mature forest with old growth forest hides this rarity of quality old growth and masks the need to conserve existing old growth.

Existing Old Growth

The background materials give acreage objectives for different old growth types. [7] These figures are apparently based on preliminary inventory of old growth based on stand age. There are inherent problems in this approach as detailed in Section C above. The background materials also detail Forest-wide standards for existing old growth.[8] This standard specifies:"Consider the contribution of identified patches to the distribution and abundance of the old growth community type and to the desired condition of the appropriate prescription during project analysis." However, it is not at all clear how the distribution and abundance of old growth community types would be assessed since most of the data that would be used is stand age derived potential old growth. It is also not clear how patches of existing old growth identified at the project level would necessarily complement the large patch old growth consisting of wilderness and recommended wilderness to create an old growth network. There is no analysis or justification to lead the public to have confidence that this scheme would have the representation or distribution to satisfy R8 OG Guidance. The standard (FW-77) further strains public credulity by stating that: "For purposes of project planning, the following forest types are considered well-represented in the current inventory of existing old growth for the George Washington National Forest: the Dry Mesic Oak Type and Dry & Dry-mesic Oak-pine Forests and may by cut through resource management activities."[9] This statement despite being followed by this statement in FW-78: "NOTE: Because there is no current old growth inventory on the GWNF that has been field verified…..".[10] Clearly the standard is being based on the assumption that possible old growth derived from stand age is equivalent to existing old growth. This would likely lead to the cutting of good quality existing old growth because of the unwarranted assumption that old growth of these forest types is well represented. This assumption is almost certainly incorrect for much of the initial inventory of potential old growth for the reasons detailed above. At this point the rationale for the forest's old growth network and the approach to existing old growth is circular and based on faulty assumptions and information.

Invasive Species

Researchers have found that logging, roadbuilding, and other similar activities create the conditions in which invasives can thrive. For example, logging simplifies structural diversity and eliminates microhabitats, thus decreasing species richness. As a result, communities are more prone to invasion by one or a few dominant species (Elton 1958). Habitats most likely to have an invasive species presence have been correlated with the following attributes: "vacant niches, lack of biotic constraints (predation, parasitism and disease), lack of community richness (biodiversity & structure), and disturbance." Logging is known to cause all four factors in forest ecosystems (Mack *et al.* (2000)). The introduction and spread of invasive species is linked to poor logging practices (poor replanting practices, road construction, & movement via machinery and tools) (Aber *et al.* 2000). Invasives, and vectors for the spread and introduction of invasives, must be fully considered. Mitigation measures must be established to reduce invasives. Additional alternatives with less disturbance should have been considered to reduce the introduction and spread of invasives.

The FS provides no basis for the statement that the risk of invasive species introduction in logged and roaded areas is "low." Researchers have found that logging, roadbuilding, and other similar activities create the conditions in which invasives can thrive. For example, Mack *et al.* (2000) found that the habitats that invasive species have successfully invaded in the past were qualified to as to their characteristics by Mack *et al.* (2000). Positive correlations were found between susceptibility to invasion and:

1. vacant niches
2. lack of biotic constraints (predation, parasitism and disease)
3. lack of community richness (biodiversity & architecture)
4. disturbance

All of these phenomena are created in extreme fashion by logging practices.

References:

Elton, 1958. The Ecology of Invasions by animals and plants. London, Methuen.

Mack *et al* 2000. Biot ic Invasions: causes, epidemiology, global consequences, and control. Ecol. Applicat ions 10(3):689-710

The FS should consider the full impacts of invasive plants in the GWNF, the degree to which activiities(by themselves and cumulatively) will contribute to the spread of invasive plants. The FS has not demonstrated that the mitigation measures effectively eliminate the causes of noxious weed spread. logging, roadbuilding, and skid trail use and heavy vehicle traffic spread existing weeds, and probably introduce new species of weeds

The Forest Service should have considered all reasonable measures that could reduce the potential spread of noxious weeds. Failure to consider strong mitigation measures violates NEPA requirements to minimize adverse effects:

Use all practicable means, consistent with the requirements of the Act and other essential considerations of national policy, to restore and enhance the quality of the human environment and avoid or minimize any possible adverse effects of their actions upon the quality of the human environment. (40 CFR 1500.2(f))

A mere listing of mitigation measures is insufficient to qualify as a reasoned discussion by NEPA. EISs must analyze mitigation measures in detail and explain the effectiveness of such measures [Northwest Indian Cemetery Protective Ass'n v/. Peterson 795 F.2d 688 (9th Cir. 1986)]. Forest Service NEPA documents describe possible mitigation measures but do not discuss them in adequate detail nor do they discuss or disclose the costs, effectiveness or efficacy of the mitigation measures. The long-term effectiveness of herbicides and other noxious weed treatments are still seriously questionable.

NFMA regulations relevant to noxious weeds include:

"Management prescriptions, where appropriate and to the extent practicable, shall preserve and enhance the diversity of plant and animal communities, including endemic and desirable naturalized plant and animal species, so that it is at least as great as that which would be expected in a natural forest . . ." (36 CFR 219.27(g))

"Provide for and maintain diversity of plant and animal communities to meet overall multiple-use objectives, as provided in paragraph (g)" (36 CFR 219.27 (a)(5)) "[D]iversity shall be considered throughout the planning process. Inventories shall include quantitative data making possible the evaluation of diversity in terms of its prior and present condition." (36 CFR 219.26)

"[V]egetative manipulation of tree cover shall" "[p]rovide the desired effects on water quantity and quality, wildlife and fish habitat, regeneration of desired tree species, forage production, recreation uses, aesthetic values, and other resource yields." [36 CFR 219.27 (b)(6)]

The FS is required to comply with presidential Executive Order13112.:

Section 5: (b) The first edition of the Management Plan shall include a review of existing and prospective approaches and authorities for preventing the introduction and spread of invasive species, including those for identifying pathways by which invasive species are introduced and for minimizing the risk of introductions via those pathways, and shall identify research needs and recommend measures to minimize the risk that introductions will occur. Such recommended measures shall provide for a science-based process to evaluate risks associated with introduction and spread of invasive species and a coordinated and systematic risk-based process to identify, monitor, and interdict pathways that may be involved in the introduction of invasive species.

Or,

Sec. 2. Federal Agency Duties. (a) Each Federal agency whose

actions may affect the status of i

{nv

1asive species shall, to the extent

practicable and permitted by law,

(1) identify such actions;

(2) subject to the availability of appropriations, and within Administration budgetary limits, use relevant programs and authorities to: (i) prevent the introduction of invasive species; (ii) detect and respond rapidly to and control populations of such species in a cost-effective and environmentally sound manner; (iii) monitor invasive species populations accurately and reliably; (iv) provide for restoration of native species and habitat conditions in ecosystems that have been invaded; (v) conduct research on invasive species and develop technologies to prevent introduction and provide for environmentally sound control of invasive species; and (vi) promote public education on invasive species and th

e means to address them; and

(3) not authorize, fund, or carry o

ut actions that it believes are

likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere unless, pursuant to guidelines that it has prescribed, the agency has determined and made public its determination that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions.

Cutting units and bulldozed skid traills appear to play a role in the known occurrences of noxious weeds and may play a further role in the presence of yet uninventoried infestations that are out there. We challenge the FS to give an accurate percentage of the miles of roads on the FS that have never had noxious weeds. Likewise, these infestations on the roads readily expand into cutting units, especially the more intensive the logging done in the particular units. The FS just throws up its hands and accepts that they will be carrying out management activities that inevitably cause more spread of weeds. Instead, a genuine prevention strategy is needed and this needs to be incorporated into the Plan Revision.

The premier tool of prevention of new noxious weed invaders deserves the highest priority. Instead, all prevention strategies assume weeds will invade, then prescribe expensive control methods of unknown efficacy after the fact.

Without first significantly reducing the type of soil disturbing activities that facilitate noxious weed invasion, the proposed treatment effects may be negated, indeed, overwhelmed by the spread of weeds caused by more of the same road building and logging. By arbitrarily not considering these measures, the FS must show a genuine, pressing need to risk the ecosystems by applying poisons.

The FS should address the potential spread of invasives (& noxious weeds) from the activities contemplated in the Plan. We feel that the introduction and spread of invasives are some of the greatest threats to our public lands. In addition to addressing current weed infestations foreseeable, the FS should be focused on stemming the increasing infestation and spread of noxious weeds in the project area. The FS should include measures to limit future ground disturbing and weed spreading activities. For example, all livestock that use the trail should be required to use certified weed-free hay. The NEPA document should examine and address the most prevalent ways that soil disturbances are created which lead to weed invasions. This should be recognized in terms of costs to the taxpayer, impacts on biodiversity, and the likely need for doing even more weed control in the future. It makes absolutely no sense to analyze controlling weed invasions that exist now without taking a full and honest look at how to prevent new sites from being invaded. While limiting future land disturbance should be the foremost priority, prevention measures associated with land disturbing activities that do occur should also be outlined in the NEPA document. The past effectiveness of the proposed prevention activities should be discussed. Roads and trails likely have the greatest potential for spreading noxious weed seeds.

Road- work, logging, and open woodland creations and other major activitiescontribute to the spread of invasives & should be fully examined. A comprehensive, integrated policy that specifically includes the halting or significant curtailment of logging, roadbuilding, road construction, grazing allotments, mineral development, ORV riding and other activities that contribute to the spread of noxious weeds should have been considered. The premier tool of prevention of new noxious weed invaders deserves the highest priority. Too often the Forest Service has relied on ineffective stop-gap measures - at the same time it has allowed some of the worst ground disturbing activities to continue.

The NEPA document must meet NEPA's requirements that a reasonable range of alternatives be fully analyzed. The Forest Service Handbook, chapter 20, section 23.2 states that the purpose and intent of alternatives are to "ensure that the range of alternatives does not foreclose prematurely any option that might protect, restore and enhance the environment." Under NEPA, an environmental impact statement must contain a discussion of "alternatives to

the proposed action" [42 U.S.C. 4332(2)(D)]. As interpreted by binding regulations of the CEQ, an environmental impact statement must "(r)igorously explore and objectively evaluate all reasonable alternatives" [40 C.F.R. 1502.14(a)]. The importance of this mandate cannot be downplayed; under NEPA, a rigorous review of alternatives is "the heart of the environmental impact statement." 40 C.F.R. 1502.14. Similarly, case law has established that consideration of alternatives that lead to similar results is not sufficient to meet the intent of NEPA. [Citizens for Environmental Quality v. United States, 731 F.Supp. 970, 989 (D.Colo. 1989); State of California v. Block, 690 F.2d 753 (9th Cir. 1982).]

NEPA regulations at 40 CFR ß 1502.4(a) state:

Agencies shall make sure the proposal which is the subject of an environmental impact statement is properly defined.

And at 40 CFR ß 1508.25, NEPA regulations state:

Scope consists of the range of actions, alternatives, and impacts to be considered in an environmental impact statement. . . To determine the scope of environmental impact statements, agencies shall consider:

(a) Actions (other than unconnected single actions) which may be:

(1) Connected actions, which means that they are closely related and therefore should be discussed in the same impact statement. Actions are connected if they:

(i) Automatically trigger other actions which may require environmental impact statements.

The FS is required to comply with presidential

Executive Order 13112. The FS does not assure the public that the proposal is consistent with the following sections of Executive Order 13112:

Section 5: (b) The first edition of the Management Plan shall include a review

of existing and prospective approaches and authorities for preventing

the introduction and spread of invasive species, including those for

identifying pathways by which invasive species are introduced and for

minimizing the risk of introductions via those pathways, and shall

identify research needs and recommend measures to minimize the risk that

introductions will occur. Such recommended measures shall provide for a

science-based process to evaluate risks associated with introduction and

spread of invasive species and a coordinated and systematic risk-based

process to identify, monitor, and interdict pathways that may be

involved in the introduction of invasive species.

Or,

Sec. 2. Federal Agency Duties. (a) Each Federal agency whose actions may affect the status of inv
1asive species shall, to the extent practicable and permitted by law,

(1) identify such actions;

(2) subject to the availability of appropriations, and within Administration budgetary limits, use relevant programs and authorities to: (i) prevent the introduction of invasive species; (ii) detect and respond rapidly to and control populations of such species in a cost-effective and environmentally sound manner; (iii) monitor invasive species populations accurately and reliably; (iv) provide for restoration of native species and habitat conditions in ecosystems that have been invaded; (v) conduct research on invasive species and develop technologies to prevent introduction and provide for environmentally sound control of invasive species; and (vi) promote public education on invasive species and th
e means to address them; and

(3) not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere unless, pursuant to guidelines that it has prescribed, the agency has determined and made public its determination that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and

prudent measures to minimize risk of harm will be taken in conjunction

with the actions.

Researchers have found that logging, roadbuilding, and other similar activities create the conditions in which invasives can thrive. For example, logging simplifies structural diversity and eliminates microhabitats, thus decreasing species richness. As a result, communities are more prone to invasion by one or a few dominant species (Elton 1958). Habitats most likely to have an invasive species presence have been correlated with the following attributes: "vacant niches, lack of biotic constraints (predation, parasitism and disease), lack of community richness (biodiversity & structure), and disturbance." Logging is known to cause all four factors in forest ecosystems (Mack *et al.* (2000)). The introduction and spread of invasive species is linked to poor logging practices (poor replanting practices, road construction, & movement via machinery and tools) (Aber *et al.* 2000). Invasives, and vectors for the spread and introduction of invasives, must be fully considered. Mitigation measures must be established to reduce invasives. Additional alternatives with less disturbance should have been considered to reduce the introduction and spread of invasives.

The NEPA document must meet NEPA's requirements that a reasonable range of alternatives be fully analyzed. The Forest Service Handbook, chapter 20, section 23.2 states that the purpose and intent of alternatives are to "ensure that the range of alternatives does not foreclose prematurely any option that might protect, restore and enhance the environment." Under NEPA, an environmental impact statement must contain a discussion of "alternatives to the proposed action" [42 U.S.C. 4332(2)(D)]. As interpreted by binding regulations of the CEQ, an environmental impact statement must "(r)igorously explore and objectively evaluate all reasonable alternatives" [40 C.F.R. 1502.14(a)]. The importance of this mandate cannot be downplayed; under NEPA, a rigorous review of alternatives is "the heart of the environmental impact statement." 40 C.F.R. 1502.14. Similarly, case law has established that consideration of alternatives that lead to similar results is not sufficient to meet the intent of NEPA. [Citizens for Environmental Quality v. United States, 731 F.Supp. 970, 989 (D.Colo. 1989); State of California v. Block, 690 F.2d 753 (9th Cir. 1982).]

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Section 5: (b) The first edition of the Management Plan shall include a review of existing and prospective approaches and authorities for preventing the introduction and spread of invasive species, including those for identifying pathways by which invasive species are introduced and for minimizing the risk of introductions via those pathways, and shall identify research needs and recommend measures to minimize the risk that introductions will occur. Such recommended measures shall provide for a science-based process to evaluate risks associated with introduction and spread of invasive species and a coordinated and systematic risk-based process to identify, monitor, and interdict pathways that may be involved in the introduction of invasive species.

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cost-effective and environmentally sound manner; (iii) monitor invasive species populations accurately and reliably; (iv) provide for restoration of native species and habitat conditions in ecosystems that have been invaded; (v) conduct research on invasive species and develop technologies to prevent introduction and provide for environmentally sound control of invasive species; and (vi) promote public education on invasive species and th
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Herbicides, and other Biocides:

Herbicides, Insecticides, and Pesticides:. The FS should provide for adequate safeguards to reduce known adverse effects resulting from the application of insecticides and herbicides.

The insecticides may directly, indirectly, and/or cumulatively harm Endangered species of Bats and Sensitive species of birds. See, e.g., Linda Butler, 1997, "Comparative Impact of Gypsy Moth Insecticides to Nontarget Canopy Arthropods: Bacillus thuringiensis, Dimilin, and Mimic", pp. 74-76 in Hitt, T.P., editor, Proceedings from the 1996 Central Appalachian Ecological Integrity Conference. Heartwood, Bloomington, IN. 108 pp.

There is an issue as to how herbicide and pesticide application will be managed in order to minimize risks to human and wildlife health and the environment. And there is a possibility that certain insecticides, herbicides, or pesticides cannot be applied at ANY level such that adverse affects are

avoided EVEN IF risks are minimized. It might be appropriate not to use these substances at all. These substances need to be identified and prohibited from use.

A sensible and enlightened plan to reduce and control noxious weeds must not only eliminate current weed populations, it must actively prevent new infestations by focusing on the manner in which weeds are spread.

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The FS is required to comply with presidential

Executive Order

13112. How is the proposal consistent with the following sections of Executive Order 13112?:

Section 5: (b) The first edition of the Management Plan shall include a review of existing and prospective approaches and authorities for preventing the introduction and spread of invasive species, including those for identifying pathways by which invasive species are introduced and for minimizing the risk of introductions via those pathways, and shall identify research needs and recommend measures to minimize the risk that introductions will occur. Such recommended measures shall provide for a science-based process to evaluate risks associated with introduction and spread of invasive species and a coordinated and systematic risk-based process to identify, monitor, and interdict pathways that may be

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Roads and artificial clearings appear to play a role in the known occurrences of noxious weeds and may play a further role in the presence of yet uninventoried infestations that are out there. We challenge the FS to give an accurate percentage of the miles of roads on the GWNF that have never had noxious weeds.. Likewise, these infestations on the roads readily expand into cutting units, especially the more intensive the logging don

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The premier tool of prevention of new noxious weed invaders deserves the highest priority. Instead, all prevention strategies assume weeds will invade, then prescribe expensive control methods of unknown efficacy after the fact.

Without first significantly reducing the type of soil disturbing activities that facilitate noxious weed invasion, the proposed treatment effects may be negated, indeed, overwhelmed by the spread of weeds caused by more of the same road building and logging. By arbitrarily not considering these measures, the FS has failed to show a genuine, pressing need to risk the ecosystems by applying poisons.

The FS should consider the possibility that applications of herbicides and other biocides may increase resistence to these substances. For example, The Weed Science Society of America confirms that known cases of herbicide resistance continue to climb exponentially.

How does the FS ensure that spray drift will be adequately controlled, and will not adversely affect non-target resources, based on the stds. in the Draft Plan? A number of research papers show that sprayed chemicals, including many of those being considered for use here, can drift

long distances, even under the measures and conditions proposed. See, for example, Teschke et al. Jan. 2001 'Spatial & Temporal Distribution of Airborne Bacillus thurungentius...' Env. Health Perspectives:109:47-52; Ntl. Academy of Sciences/National Research Council/Board on Agriculture/Committee on Long-Range Soil and Water Conservation 1993 "Soil & Water quality: an agenda for agriculture" Wash. DC: Ntl. Academy Press. p 323-4. U.S. Co

ngress Office of Technology Assessment 1990 "Beneath the bottom line: agricultural approaches to reduce agrichemical contamination of groundwater" Report No. OTA-4-418. Washington DC: U.S. Government Printing Office.

[See references from our Aug.8, '08 comment letter, incorporated by reference.]

Thank you for the opportunity to comment

Sincerely yours,

Sherman Bamford

Public Lands Coordinator, VAFW

& Forests Committee Chair, Va. Chapter-Sierra Club

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[1] There are 378,229 acres on GW/Jefferson in the "potential wilderness" inventory, or 372,631 acres on GW only.
[2] The Summary of the Need for Change proposes to recommend 20,000 acres of additional wilderness in a new Little River area and in additions to the existing Ramseys Draft, St. Marys and Rich Hole wilderness areas, while the draft management prescriptions document proposes those areas as well as an addition to the existing Rough

Mountain wilderness area. The GW should clarify which areas they intend at this point to recommend.

[3] We must point out that the chart of the alternative currently contains many incorrect acreage figures for these areas which need to be corrected (for example, Adams Peak, Big Schloss, Catback/Waterfall/Duncan Knob (which again seems to have been confused with the Southern Massanutten IRA), Little River, Rich Hole Addition, Saint Marys Additions, Southern Massanutten, Three Sisters, and many others too numerous to list).

[4] While there certainly has been public participation in the plan revision prior to the NOI, the public has not had an opportunity to comment on the NEPA and 1982 NFMA rule analyses because those have not been done.

[5] *Guidance for Conserving and Restoring Old Growth Forest Communities on National Forests in the Southern Region* (Forestry Report R8-FR 62, June 1997. p. 11-12.

[6] "Forestwide Desired Conditions," Draft – February 2010, p. 15

[7] Forest Objectives – Need for Change, p.3

[8] Forest-wide Standards, FW-77 p 9

[9] Ibid

[10] Forest-wide Standards, FW-78 p 9

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May 6, 2010

George Washington Plan Revision
George Washington & Jefferson National Forests
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Conservation Alternative - George Washington National Forest

Preface

The 1982 Rule on National Forest System Land Management Planning, Authority. Source: 47FR 43037, September 30, 1982 specifies that the "interdisciplinary team shall formulate a broad range of reasonable alternatives…to provide an adequate basis for identifying the alternative that comes nearest to maximizing net public benefits (Sec. 219.12, 5f). The Notice of Intent states that the agency is soliciting "comments on the need for change, proposed actions, issues and preliminary alternatives". This document, submitted on behalf of **Wild Virginia** and **Heartwood**, in conjunction with that which is being submitted concurrently as the Conservation Alternative of Steven Krichbaum, comprise a significant and important alternative, not replicated or related to any of the alternatives contained in the Notice of Intent. We, therefore, request that the Conservation Alternative be given full consideration and the full NEPA analysis be conducted on the Concurrent Conservation Alternative and its "effects on present net value (Sec. 219.12, 5f, 1)" as the alternative which "comes nearest to maximizing net public benefits (Sec. 219.12, 5f)".

Issue: Consistency with the Jefferson Plan

We submit the issue that the intention that the GWNF Plan be "consistent" with the existing Jefferson Forest Plan is neither necessary nor desirable. Although in some respects, the JNF Plan is superior to the current GW Plan,(e.g., expanding the Fish and Mussel Conservation Plan requirements to the entire JNF), the standards and guidelines in the JNF Plan are in many ways significantly weaker and more harmful than even those in the current GWNF Plan. The current Plan for the JNF is flawed in many ways and there is no reason to subjectively reduce the quality of management in the George Washington and the final results of the planning process to this "lowest common denominator." For example, the Jefferson's current desired future condition, goals, objectives, current land management areas and definitions, management prescriptions, and management indicator species would automatically preclude and subjectively limit many of the issues, goals, objectives of other possible alternatives.

The ID team should strive to create the very best plan possible that would include learning from the mistakes and limitations of the Jefferson Plan. If significant inconsistencies with a positive, effective and improved GWNF Plan exist at the conclusion of the GWNF planning process, the Jefferson should consider amending their plan to achieve any desired consistency with the GWNF Plan.

The Conservation Alternative

Expanding human population and development pressures are the landscape context for the George Washington National Forest and America's other large public land holdings. Tragically, these pressures have forced the GWNF into the unfortunate position of serving as a last refuge for an enormous variety of organisms and the interdependent ecosystems in which they live. Fortunately, these public lands are a case where we still have the tenuous luxury to plan how habitats will be maintained, rather than simply trying to salvage remnants of thoughtless development. The opportunity to develop a proactive, not reactive, strategy must not be foregone. The most comprehensive and balanced direction for America is the implementation of some sort of "wilderness" protection or light-on-the-land custodial management for as much of our public lands as is feasible.

This Conservation Alternative is a proactive alternative to the commodity-focused management and infrastructure that now dominate remnant natural areas such as the GWNF. It is based on science, cultural values, economics, and the provision of public benefits. It is also the most fiscally responsible and conservative direction. The Conservation Alternative maximizes net public benefits with respect to clean air, clean water, habitat for rare and important species, carbon sequestration, open space, resiliency, visual quality, recreation, education, scientific research and monitoring, and ecosystem services. In essence, it means to accentuate the positive (the possibility for complex, intact, self-sustaining wild forests) and eliminate the negative (human-induced disruptions and degradations to natural ecosystems) where we can.

I. Need for Change—Topic 1
Ecological Health, Restoration and Stability

The only opportunities for the protection or restoration of even moderately large unfragmented wildlands in the Central Appalachians are found at blocks of low road-density land in the George Washington, Jefferson, and Monongahela National Forests (see Mueller, R. 1991 & 1994, and Foreman, D. and H. Wolke 1989). The GWNF is the ideal forest to implement a "wilderness-corridor system" or "large habitat block & corridor system" based on models by Reed Noss, (Natural Areas Journal v. 7(1), 1987) and others as was proposed in Alternative 3, during the 1993 forest plan revision. The GWNF is large enough ("minimum dynamic area") to incorporate a natural disturbance regime and its shifting habitat mosaic (Shugart, H. and D. West 1981, and Bormann, F. and G. Likens 1979).

Commodity-focused management and infrastructure is common in remnant natural areas such as the GWNF. The GWNF is currently managed under a conflicting array of “management areas” and “prescriptions” that are counterproductive to achieving long-term conservation goals. There is a need for this ecological impoverishment to be addressed and counteracted. Restoration of the Forest a more natural steady-state condition where ecological processes create a mix of habitat types is the goal of the Conservation Alternative. Although climate change may delay or alter achievement of a natural steady state condition under some scenarios, the types of management proposed in the Conservation Alternative would increase the resilience of forest ecosystems in the face of climate change.

II. Need for Change—Topic 2
Roadless Areas, Remote Backcountry and Wilderness

The GW National Forest has less federally designated Wilderness than most other National Forests (Johnson 2001; US Forest Service 2000; SAA 1996). At the same time, the GWNF currently possesses far more roadless areas than other eastern National Forests. These roadless tracts offer the ready opportunity for Wilderness designation. Aside from its ecological and economic values, Wilderness is considered to be a very important recreational opportunity best provided for on public lands (Wilderness Society 2000). There is a need for substantially more Wilderness Areas on the Forest.

Remnants of the original Great Eastern Forest are unique, vulnerable, and precious. Unfortunately, only *ca*. 4% of our GWNF is permanently protected as designated Wilderness, far below the national average of 18% of designated Wilderness in our National Forests. Indeed, our entire Southern Appalachian region is under-represented; in the entire 37-million-acre region, only *ca*. 1.1% (428,000 acres) is currently designated as Wilderness (Loomis and Richardson 2000 at pp. 20-23; Cordell, SAMAB SAA Social Technical Report at 178-82; USDA FS Southern Research Station 2006).

Currently the Roadless Areas in the GWNF are not being managed according to the direction of the 2001 Roadless Rule. In addition, not all areas that qualify as Roadless Areas have been recognized as such. There are numerous opportunities to expand the current Roadless Inventory by recognizing these areas and by proposing strategic management actions and projects, such as road closures, decommissionings and obliterations, with the express purpose of increasing the number, size, and ecological integrity of these roadless areas. This would lead to an increase in Potential Wilderness Areas in number and in size and create an opportunity to significantly address the need for more wildernesses in the GWNF.

Currently not a single acre of the GWNF meets the USFS ROS criterion for Primitive Recreation. The GWNF has a need to create and maintain an area in the forest that comes closest to approximating this type of recreational opportunity. The GWNF has an opportunity, unique in Eastern Forests to create such an area, through the same strategic management actions and projects as mentioned above, road closures, decommissionings and obliterations, with the express purpose of maximizing the size of an intact, remote, roadless area which can come closest to approximating the primitive recreation experience.

III. Need for Change—Topic 3
Responding to Social Needs

There is a need to manage the GWNF for its highest social needs, those that are essential and equally shared by all forest "users" whether or not they ever step foot in the forest. Everyone benefits from increased levels of clean air and clean water: from the protection of habitat for rare, threatened and endangered species; from the peace, solitude and challenges that the forest can afford; from the increased knowledge and scientific awareness of forest ecology and processes. Yet the highest social need is to provide for ecological values and resources that are not available elsewhere, the potential for which would be unrealized but for public lands. Large unfragmented forest blocks with climax/old growth characteristics that provide opportunities for primitive recreation opportunities are only possible in Virginia on public lands of the George Washington National Forest.

There is a need for the GWNF to maximize net public benefits. This is to say that resources in the GWNF need to be protected and enhanced and never degraded for short-term exploitation and the costs of such actions should not be passed on to future generations. There is also a social need to avoid privatization of public resources "at all costs". It is also necessary for thriving local economies that the GWNF does not compete with private lands in providing goods and services. It is beyond the scope of the plan for the agency to take responsibility for maintaining, sustaining or providing for, any projected, existing or historical industry or community.

There is general agreement among forest users, stakeholders and managers that the forest should be maintained in a "natural" state. Although what exactly is "natural" may be debatable, one measure is the amount of cultural subsidy (technological energy and material inputs, i.e., tax dollars) required to maintain the functioning of the system as desired (see Anderson, J.E. 1991, and Sprugel, D.G. 1991). Restoration of the Forest to its natural steady-state condition where ecological processes and not machinery create a mix of habitat types is a balanced and fiscally conservative alternative to spending millions of tax dollars on large amounts of artificially fabricated and fragmented habitat.

An overarching theme of this Conservation Alternative is to protect, nurture, and restore natural conditions on the Forest to as great a degree as feasible while still accommodating myriads of low-impact recreational uses by human visitors.

IV. Desired Future Condition

"Desired conditions describe the vision for achieving the Forest Service's mission on the George Washington National Forest. They portray the aspiration ecological, social and economic conditions that have been identified through an integration of input from the public comments…received, national and regional Forest Service goals, changes and trends affecting the George Washington National Forest and the best available science for various resources and uses of the forest (GW Draft Planning Document, February, 2010)."

As such the Desired Future Condition is highly subjective. "The Forest may need to make adjustments in the desired conditions if monitoring results indicate they are not achievable in the long-term or if there is an imbalance in what the Forest is accomplishing…desired conditions are aspirations; they are not final decisions or commitments to action (ibid.)." However Desired future conditions have been created to drive the planning process for the GWNF.

The Conservation Alternative, therefore, specifies a desired future condition that speaks to the long-term ecological integrity of the 1,061,125 acres of the GWNF. It creates situations for a forest in its natural steady-state condition where ecological processes create a mix of habitat types that preserve the ecological integrity of the forest. The restoration and preservation of ecological integrity on the Forest (Angermeier, P. 1996) is the driving force of the recommendations in this Conservation Alternative.

The maintenance and restoration of large habitat blocks on the Forest, and the restoration of the Forest to its natural steady-state condition where ecological processes create a mix of habitat types which preserve the ecological integrity and connectivity must be a priority of the new Plan. Thus, a primary objective of this Citizen's Alternative is to sustain native ecological systems and diversity by allowing for the large-scale re-emergence of the natural multi-aged old-growth forests with their variegated seral stages and disturbance patches (Davis, M.B. 1996.

Because "budget levels are an important factor in moving towards the desired conditions," the Conservation Alternative maximizes net future value of the forest while significantly reducing costs. Under this alternative, the GWNF does not compete with private lands in providing goods and services and avoids any type of privatization of resources, goods and services.

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V. Issues and Actions

1. Management Areas and Management Prescriptions
2. Maximizing Net Public Benefits
3. Fire
4. Forest and Habitat Fragmentation and Edge Effects
5. Special Biological Areas
6. Core Conservation Areas, Buffer Areas and Migration Corridors
7. Roadless Areas
8. Wilderness and Wilderness Study Areas
9. Water Quality, Drinking Water Watersheds, Riparian Areas, Soils Sedimentation and Acidification
10. Old Growth and Climax Forests
11. Invasive Species
12. Climate Change, Carbon Sequestration and Resiliency
13. Roads
14. Primitive Recreation
15. Semi-primitive Non-motorized Recreation
16. Developed and Motorized Recreation
17. Timber Production
18. Early Successional Habitat
19. Rare and Special Species
20. Management Indicator Species
21. Wildlife Management
22. Forest Diversity
23. Ecological Restoration
24. Biomass Energy
25. Wind Energy
26. Oil and Gas Energy and Mineral Leasing
27. Air Quality
28. Scientific Research, Data and Monitoring
29. Wild and Scenic Rivers
30. Scenic and Visual Quality
31. Shenandoah Mountain

1. Management Areas and Management Prescriptions

The GWNF is currently managed under a conflicting array of zones that confers different management direction to different land areas. The current Plan describes and maps 18 Management Areas (GW Plan at page 3-3) that are aggregates of 37 management prescriptions (GW FEIS at appendix page B-70).

The conflicting emphases of this zoning scheme lead to a variety of problems. The current plan contributes to the fragmentation, degradation, and loss of

habitat on the Forest by considering many places to be suitable for disruption and development. The original presettlement landscape was an interlaced mosaic with a high degree of connectivity, a situation quite unlike our contemporary America. The current system ignores the degenerating reality of our present situation that demands the maintenance and restoration of an essential component of ecological health: habitat continuity over large areas (Noss, R.F. and A.Y. Cooperrider 1994).

Management actions such as timber sales, the creation of artificial early-successional habitat, road construction and artificial fire regimes and their impacts do not occur in isolation. The impacts are overlapping in time and space, are chronic, long-term, and cumulative.

Maintaining habitat connectivity and continuity, both horizontally and vertically, is essential for keeping ecological functions and communities intact. This maintenance of broad ecosystem integrity is critical for terrestrial and aquatic species alike, and especially for those such as amphibians that are biphasic and for species that are “area sensitive”.

For example, Black Bear habitat is logged and roaded, featured off-highway vehicle routes are gerrymandered into a special biological area ostensibly set-up to conserve the Cow Knob Salamander, ATV routes are placed beside sensitive streams and special biological areas, and logging sites are placed beside popular recreation trails and adjacent to special biological areas.

It takes a great deal of human subsidy (time, energy, materials, money) to maintain or fabricate the unnatural desired conditions that are the Forest Service’s objective in many “Management Areas”. The USFS spends around $5-Billion a year of Americans’ tax dollars. In these days of deficits and stretched-thin budgets, a much more fiscally conservative approach is called for to reduce costs and projects that create the need for more management in the long run.

Actions - The FS can attain the desired future condition and greatly simplify management and save tax dollars by reducing the number of management area allocations on the Forest. This is an efficacious and achievable way to steward the Forest, providing a full spectrum of beneficial desired conditions.

Use of management area allocations that do not emphasize artificially maintained “desired conditions” will reduce the “need” for future expensive activities, such as money losing timber sales, road building and creation of early-successional habitats. Some Management Areas and Management Prescriptions used in the current GWNF and JNF Plans can serve as a basis for the revised Plan.

The Management Areas in the current GWNF Plan should be limited to: MA 1 Minimal Level Management, MA 2 Migration Corridors, MA 3 Sensitive Watersheds/Municipal Watersheds, MA 4 Special Interest Areas (including

RNAs), MA 6 Appalachian Trail, MA 8 Wilderness & Recommended Wilderness Study Areas, MA 9 Back Country/Remote Highlands, MA 10 Scenic & Recreational Rivers, MA 12 Developed Recreation Areas, MA 18 Riparian Areas, MA 20 Administrative & Communication Sites and Utility Corridors, and MA 21 Special Management Areas. Management Areas 16 ("Early Successional Forested habitats for Wildlife"), 17 ("Timber Emphasis"), and 11 ("All-Terrain/Off highway Routes") are particularly destructive and must no longer be used on the Forest.

Those corresponding Management Prescriptions from the current JNF Plan are MPs 0A Custodial Management, 1A Designated Wilderness, 1B Recommended Wilderness Study Areas, 2C WSR Rivers, 4A Appalachian Trail Corridor, 4B Designated and Proposed Research Natural Areas, 4C1 Geologic Areas, 4D Botanical and Zoological Areas, 4E1a Cultural and Heritage Areas, 4F Scenic Areas, 5A/B/C Administrative & Communication Sites and Utility Corridors, 7D Concentrated Recreation Areas, 9A2 Reference Watersheds, 9A4 Aquatic Habitat Areas, 9F Rare Communities, 11 Riparian Areas, and 12C Remote Backcountry Recreation – Natural Processes.

In the revised Plan the Forest Service should greatly increase the use of MA 1 or 0A custodial or minimal level management. All lands currently allocated to MAs 14, 15, 16, and 17 (594,000 acres) are reallocated to MA 1 or MP 0A if not placed in MAs 2, 3, 4, 8, 9, or 21 or JNF MPs 1B, 4B, 4C1, 4F, 9A2, 9A4, 9F, or 12C, or other new, equally or more restrictive MAs/MPs.

In order to attain the desired future condition for the forest, the Conservation Alternative greatly increases recommendations of Congressionally designated areas (such as Wilderness and Scenic Rivers), as well as recommended new Research Natural Areas for designation by the Chief of the Forest Service. It also greatly increases land managed as administratively designated special areas including Scenic Areas, Historic Areas, and Special Biological Areas.

2. Maximizing Net Public Benefits

The desired present and future condition of the forest is achieved when net public benefits are maximized. The Forest Plan should, therefore, be an active vehicle for achieving this desired future condition. The goal of the Conservation Alternative is to create conditions that truly maximize net public benefits in the short and long term.

The term "net public benefits" is defined in the 1982 NFMA regulations as: "An expression used to signify the overall long-term value to the nation of all outputs and positive effects (benefits) less all associated inputs and negative effects (costs) whether they can be quantitatively valued or not. Net public benefits are

measured by both quantitative and qualitative criteria rather than a single measure or index…"(Sec. 219.3)

Net public benefits are maximized when the public benefits derived from the provision of goods and services as outlined in the Forest Plan are higher than the public costs incurred in providing them; and when there is no conceivable other mix of goods and services (or use of resources) that could provide any higher net public benefit.

Simply put, the Forest Plan, within the constraints of its budget, maximizes net public benefit by preferring activities that generate a high net public benefit (= benefits minus costs) over those that create a lower net benefit or a loss. Net public benefit for any activity increases when costs of achieving that benefit go down and decreases when costs go up. And, as the 182 NFMA regulations specify, costs and benefits have both monetary and non-monetary components. Ecosystem benefits and costs are clearly part of those non-monetary components although there exist realistic way to compute these in dollar values. (For a generally accepted example of such analysis, see Appendix #1.)

The evaluation of net public benefit in the 1993 plan was flawed because it 1) focused on maximizing "net present value" as opposed to "net public benefit", 2) failed to consider positive ecosystem services as a benefit under its cost/benefit analysis, and 3) failed to consider the negative costs connected with alternatives that resulted in a net loss to ecosystem services.

Net public benefit cannot be maximized when activities that have a low net public benefit (or that generate a net public loss) are preferred over activities that have a higher net public benefit (large benefit, low cost). Otherwise, there would be a net public loss to society from operations and projects, which would be inconsistent with Congressional intent.

Actions-Through the NEPA process, the Forest Plan FEIS analyzes and exposes the environmental benefits and costs, as well as economic impacts, resulting from their actions, including the costs and benefits related to ecosystem services, as projected and promoted by the plan. The FEIS for the GW Forest Plan must provide detailed information about the projected budget impacts of the different programs and activities resulting from implementation of each plan alternative. It should include analysis of each alternative's effects on "present net value" and will identify the alternative that maximizes "net public benefit."

3. Fire

The burning program as currently implemented under the 1993 Plan is mostly a forced artificial regime that can harm natural forest diversity, conditions, and elements. In some locations, some plants benefit from fire or re-emerge after fire, even after many years of absence. In other biological communities, fire can

harm salamanders or other species. When prescribed burning is used inappropriately, the FS is creating an artificial management regime, which can be both environmentally destructive and costly to continue.

The Forest Service has greatly increased the acreage of “prescribed burning” (intentional fires) on the GWNF. For the nine years 1986-1994, 5,309 acres were burned on the GWNF, an average of 590 acres/year. For the ten years 1995-2004, 39,552 acres were prescribed burned on the Forest, an average of 3,955 acres/year. For the five years 2000-2004, 23,920 acres were burned, an average of 4,784 acres/year. In the two years 2003 and 2004, 14,291 acres were prescribed burned, an average of 7,145 acres/year.

It is not clear that the site-specific flora and fauna populations and natural communities found in all the expansive areas proposed for burning are in need of artificial fires. It is not clear what are the damaging effects of past artificial fires occurring on these sites. And it is certainly not clear precisely what scientific data and analyses are being used to substantiate the proposed burning at project sites.

The current plan facilitates actions that are intent on using unnatural conditions (*i.e*., an anthropogenic or culturally augmented regime) as the “baseline” upon which to base goals, objectives, and/or desired conditions. The use of a “natural historic range of vegetation and fuel composition” and “historic reference conditions” is not justified as they present a subjective and artificial baseline that resulted from intense and widespread human alteration of forest conditions (“1730s to 1900s” - DCER).

Prescribed burning operations may significantly harm biota and/or ecosystems directly, indirectly, and/or cumulatively. As does intensive logging, burning alters the microclimate of the forest floor and alters microhabitat conditions (localized structural and compositional attributes). It serves to simplify niche complexity by removing woody and leafy material from the forest floor. Cover and food used by species such as the Wood Turtle can be destroyed, diminished, or altered. And of course wildlife themselves may be incinerated.

A justification for much of the current and proposed burning is to reduce so-called “hazardous fuels”. Much of what is commonly referred to as “fuels”, forest ecologists know as woody debris. This material is the dead wood and trees that are essential for and characterize healthy forests. “Fuel” also includes the forest floor litter and humus. All this material is also commonly known as “food’, “shelter”, or “habitat” for a wide variety of organisms including vascular and nonvascular plants, invertebrates, vertebrates, bacteria, protists, and fungi (McMinn, J.W. and D.A. Crossley 1996). It is an integral part of the compositional, structural, and functional diversity of healthy forests. Fires consume woody debris (Van Lear, D.H. 1996). Litter amounts can also be

significantly lower in burned plots (Waldrop, T.A. *et al*. 2007, Greenberg, C.H. and T.A. Waldrop 2008, and Elliot, K.J. *et al*. 2004).

Diminishment, removal, or absence of woody debris, litter, and humus has a dramatic impact on organisms that depend on them for food and shelter, as well as their predators (see McMinn, J.W., and D.A. Crossley 1996). Invertebrates that live in the forest floor litter, topsoil, and "fuels", such as snails, slugs, millipedes, worms, and arthropods, are a significant component of forest diversity (see, *e.g*., McMinn, J.W. and D.A. Crossley 1996).

In addition, woody debris contributes to soil fertility and increases moisture retention capacity throughout decomposition. Moisture retaining logs also serve as firebreaks as well as shelter for wildlife should a fire occur. This contrasts directly with induced fires that can make sites hotter, drier and more open and exposed to sun, wind, and predators. The decay process generally tends to mesify microsites, while fire tends to xerify microsites (Van Lear, D.H. 1996).

Burning can promote the spread of invasive plant species (Glasgow, L.S. and G.R. Matlack 2007b). Any fire allowed by a forest plan runs a high risk of creating consequences that are directly contradictory to direction given by the Agency as well as moving away from the desired future condition of the forest. Bulldozed firelines can pose a risk to soils and watersheds, can contribute to the spread of invasive species, and can provide access to OHVs. In addition, the FS irrationally combats natural fires at the same time it sets prescribed fires in other locations.

Actions - Under the Conservation Alternative prescribed fire may only be used in appropriate biological communities, at appropriate times of the year, at appropriate intensities, and at appropriate frequencies as documented by research. Clear goals, objectives for both the project and the subsequent regime would be part of all project level analysis. The results of monitoring of past projects on similar sites would be considered essential to the scoping process. It directs close monitoring of the cumulative effects of fires, both recent natural and prescribed, including data on particulates released in fires, declining air quality, high rates of asthma and respiratory distress, the proximity of Class 1 air quality areas and the superloading of CO2 into the atmosphere. The Conservation Alternative directs that all impacts of firelines be assessed in scoping and EA/EIS analysis.

The long term desired future condition is one where human ignitions are not necessary to mimic the natural fire regimes in the forest. Therefore, with the exception of the cases where naturally occurring fires threaten adjacent private lands, lightning ignitions should be allowed to burn while being closely observed and monitored. Prescribed burning should not normally be considered an appropriate management tool for wilderness areas.

4. Forest and Habitat Fragmentation and Edge Effects

The UDSA Forest Service Strategic Plan, FY 2007-2012, names fragmentation as a major threat to national forests nationwide. The GWNF is no exception. While the1993 plan acknowledges the need for large, continuous blocks of interior forest for some species of birds, it fails to significantly analyze the extent of fragmented habitat, the distribution of fragmentation forest-wide, and the deleterious effect of subsequent edge effects on forest habitat. It fails to recognize the unique role the GWNF has in safeguarding and expanding unfragmented landscapes and habitat.

The current plan, as well as the projects it directs, fails to pay attention to 3 types of fragmentation phenomena: forest fragmentation and edge created by timber cutting within particular parts of the GWNF over time, loss of the mature forest and old growth component within particular parts of the GWNF over time, and forest fragmentation and edge along the National Forest boundary and along road corridors, powerline corridors, gas line corridors, and in-holdings. For example, cowbird infestations may not be a major problem in the GWNF as a whole, but may be more serious along the FS boundaries.

The Jefferson Plan relies upon the use of mere “forest cover” to evaluate large-scale fragmentation (see JNF FEIS 3-122-123). Use of this rationale denies the very concept and significance of fragmentation since fragmentation is not only the amount of habitat that is lost or altered, but also the distribution of that loss or alteration. It further ignores the cumulative fragmentation that occurs at scales other than the “large” and ignores the significance of the internal fragmentation (Harris, L. and G. Silva-Lopez 1992) from roads, logging, utility corridors, and other openings that perforate the Forest. Currently, the discussion in innumerable GWNF EAs confines the analysis of affects to habitat just to "the number of acres cut.” A more realistic benchmark would include the perimeter boundaries of any landscape alteration activities and the resulting decrease in total size and distribution of original and subsequent island areas.

The effects of fragmentation are multifarious and multi-scalar (Fahrig, L. 2003; Saunders, D.A. *et al*. 1991). Habitat fragmentation or edge effects not only affect birds, but also amphibians, reptiles, herbaceous species, invertebrates, etc.; see, *e.g*., Ness, J.H. and D.F. Morin 2008, Matlack, G. 1994b, Graham, M.R. 2007, and Flint, W. 2004. For example, amphibians are particularly affected by fragmentation and/or edge effects since they “generally have lower rates of movement per generation than invertebrates, mammals or reptiles (Bowne and Bowers, 2004).” (Cushman, S.A. 2006)

Edge width or depth/distance of edge influence (DEI) is the result of the penetration distance of various environmental variables and gradients (*e.g*., soil temperature, air temperature, litter moisture, photosynthetic active radiation

effect on vegetation patterns, alien plant species invasion, and ingress by herbivores or predators) (Zheng, D. and J. Chen 2000).

Increased predation is an edge effect that is recognized to extend up to 600 meters into the forest from roads, energy corridors and cutting sites. These projects increase edge and facilitate ingress and impacts from meso-predators such as Raccoons, Skunks, and Opossums (see “subsidized predators” in J. Mitchell and M. Klemens 2000). These species are known to predate Wood Turtles and other sensitive species (Mitchell, J.C. 1994b).

In addition, “[t]he hypothesis that increasing edge habitat increases species diversity and abundance may be among the most widely accepted and broadly applied guidelines in wildlife management that has not been rigorously tested or evaluated.” (Sisk, T. and N. Haddad 2002) In addition, edge species diversity is typically maximized on forest boundaries and fragmented landscapes common on private and industry lands.

Actions – The Conservation Alternative implements a desired future condition of the forest with a significant decrease in the degree and the distribution of forest fragmentation. The Conservation Alternative considers the guiding principle of any active forest restoration to be the reduction of forest fragmentation and its distribution forest-wide. The Conservation Alternative requires NEPA analysis of forest fragmentation and edge effects in the GWNF. It restricts or eliminates at the planning level, projects that result in a net increase in the amount, range and distribution of fragmentation. Forest restoration efforts would be focused on closing and obliterating roads and expanding the number, size and distribution of unfragmented forest and habitats forest-wide.

Abundant populations of generalist predators (such as raccoons and skunks that affiliate with edge habitats) have become a concern among conservation biologists and controls may be necessary in some areas (Garrott, R.A. *et al*., 1993; Congdon *et al*., 1993; Engemann, R.M. *et al.* 2005). However, taking such actions is fraught with difficulty and has undesirable ecological consequences. The Conservation Alternative would manage landscapes in order to reduce predator impacts (Schneider, M.F. 2001) through minimizing forest edges.

5. Special Biological Areas

Currently there are many areas of special biological importance on the GWNF that lie in management areas that allow logging, road building and other types of vegetation management. Many of these are areas remain unprotected despite having been recommended by Virginia Division of Natural Heritage for Special Biological Area designation.

Some existing SBAs are of insufficient size to truly protect viable populations. For instance**,** the several SBAs north of the Kelley Mountain Roadless Area

which protect the Shenandoah Valley sinkhole ponds currently exist as islands. There is a need to protect the forest that surrounds and connects the ponds/SBAs. This would enable management of the entire area to be more consistent and comprehensive and would protect linkages between the ponds. This is the only opportunity on the National Forest to protect this type of habitat, and efforts to protect Valley sinkhole ponds on private land have been difficult, expensive, and at times impossible.

Some sensitive biological species are given no protection at all. Currently wood turtle populations in the PaddyRun/Cove Run Areas are not protected. Protection of Wood Turtles in a Paddy Run/Cove Run SBA is essential to provide for the continued existence of this species in the state of Virginia and the USFS Southern Region.

The VDNH has recommended the Forest Service designate a Peters Mountain North SBA that currently sits unprotected. This area contains one of the largest known contiguous occurrences of Appalachian oak forest in old growth condition in Virginia and perhaps in all of the central Appalachians, according to the VDNH report cited in the draft CER and linked to from that document.

Regarding the management of SBAs, SBAs are currently identified as unsuitable for timber production, timber harvesting and road construction but still allow other damaging activities like salvage logging, temporary road construction and possible wind generation sites. This is insufficient for the protection warranted in these areas.

Actions – The Conservation Alternative has a desired future condition where all rare, threatened, endangered, sensitive and keystone species are given the highest level of protection. Under this alternative all areas recommended by the Virginia Department of Natural Heritage as Special Biological Areas are protected by either wilderness study, special biological or research natural area designation. Expanded SBAs north of the Kelley Mountain and a Peter's Mountain SBA would be established. The Conservation Alternative identifies the Wood Turtle as a species of concern and creates a connected Paddy Run/Cove Run Special Biological Area. All SBAs and RNAs are, in addition to being unsuitable for timber production, timber harvesting and road construction are also unsuitable for salvage harvesting, temporary road construction, and any type of energy extraction or generation.

6. Core Conservation Areas, Buffer Areas and Migration Corridors

Special Biological Areas and Research Natural Areas, as areas that warrant special protection, are not in themselves sufficient to assure species viability of those rare, threatened, endangered, or keystone species and habitats these areas attempt to maintain. Buffer areas where only low-impact, minimum surface disturbances occur help assure the integrity of these areas and provide

possibilities for changes in range and distribution. Migration corridors are indispensable for linking these areas and providing areas of minimum surface disturbances for movement of individuals and populations that can allow change both range and distribution of populations. This is especially important with climate change conditions that can alter habitats and render them less hospitable. Corridors facilitate a responsive movement of flora and fauna to help assure species viability. The current GWNF Forest Plan does not include management prescriptions for biologically necessary core areas, buffer zones or migration corridors.

Actions – The Conservation Alternative envisions a desired future condition where the highest level of protection is given for rare, threatened, endangered and keystone species and other species of special concern. Restoration of the Forest to its natural steady-state condition where ecological processes create a mix of habitat types which preserve the ecological integrity and connectivity is a priority. It also allows for natural ecological forces and movements throughout the landscape. Special biological areas will be considered core conservation areas, each surrounded by buffer zones to help maintain the ecological integrity of these areas. Core areas and their surrounding buffers will be inter connected with migration corridors of sufficient size to allow movement among these areas.

On a landscape level, wilderness, wilderness study and roadless areas will also be considered core areas, surrounded by buffer zones and linked with larger scale migration corridors. Research Natural Areas are a natural designation for buffer areas and corridors.

7. Roadless Areas

The current plan fails to give protection to all Roadless Areas as specified under the 2001 Roadless Rule. Many areas that meet the definition and have the characteristics of Roadless Areas, or “uninventoried roadless areas,” are not included in the Roadless Inventory. The Plan has no management prescription that gives protection coinciding with the protection awarded in the 2001 Roadless Rule.

The GWNF’s current management and prescriptions for roadless areas are not consistent with the 2001 Rule. About 8,000 acres within inventoried roadless areas are proposed for “active management” which apparently means timber harvest and road construction not permitted by the Rule. In addition, the backcountry prescription assigned to most other inventoried roadless areas would allow salvage harvest also generally not permitted by the Rule. In the potential wilderness inventory for this plan revision, the GW identified about 148,000 acres of roadless areas that are in addition to the previous inventoried roadless areas. These newly identified roadless acres include seven new stand-alone areas, Archer Knob, Beech Lick Knob, Duncan Knob/Catback Mountain., Galford Gap, Little Mare Mountain., Paddy Knob, Potts Mountian./Toms Knob,

and Shaw's Ridge. It also includes new additions to existing wilderness areas, Saint Mary's Additions and Three Ridges Additions and expanded boundaries for many of the previous inventoried roadless areas.

It does not include, however all RARE 2 inventoried areas which would include additional acreage in Big Schloss and Great North Mountain. These roadless areas are not currently managed consistently with the previously inventoried roadless areas and with the 2001 Rule.

The current inventoried roadless area inventories are also flawed. When roadless areas were inventoried, non-system road beds and prisms in the forest were counted as "improved roads." The FSH in effect at the time stated that "improved roads" were "maintained for travel by standard passenger-type vehicles. . .." FSH 1909.12, Ch.7.11(3) (1992). Those roads that do not meet this definition, whether then considered as system or non-system roads, should not have been counted in the analysis.

Action – The Conservation Alternative has the desired future condition of a forest that maintains and restores of large habitat blocks on the forest, and the restoration of the forest to its natural steady-state condition where ecological processes create a mix of habitat types which preserve the ecological integrity and connectivity. Protection and expansion of the roadless inventory helps meet this desired future condition. The Conservation Alternative adopts guidelines that require that all RARE II areas, inventoried and uninventoried roadless areas retain their roadless characteristics. Permanent or temporary roadbuilding, creation of early-successional habitat and logging of any type would be nonconforming actions and steps would be taken to permanently close and obliterate roads that exist in these roadless areas. The GW should adopt a standard that all inventoried roadless areas, and all other areas meeting roadless criteria, are managed according to the 2001 Roadless Rule.

8. Wilderness and Wilderness Study Areas

The GW National Forest has less federally designated Wilderness than most other National Forests (Johnson 2001; U.S. Forest Service 2000; SAA 1996). Currently less than 5% of the GW is protected as wilderness and there are no areas north of Ramsey's Draft. The national average is 18%. Despite the huge wilderness deficit in the GW and the numerous areas that have wilderness characteristics and clearly qualify, the GWNF currently has not a single wilderness study area.

In addition the GWNF's Potential Wilderness Inventory is significantly flawed. Many areas were excluded from the inventory mainly on the basis of (1) their claimed lack of opportunities for solitude, due to (a) an asserted lack of a 2,500-acre "semi-primitive core"; (b) a shape and/or size viewed as undesirable; and (c)

to influences of “sights and sounds” from outside the areas; (2) the presence of private mineral rights; and (3) manageability concerns.

For many excluded areas, these stated reasons are factually incorrect, are based on improper or inconsistent criteria, and/or are inadequately supported. In summary, as a result of a Regional and forest-level misinterpretation of definition of wilderness in The Wilderness Act, the GW’s inventory erroneously focused on solitude, without considering recreation and other wilderness values, and then deviated even further from the Act’s intentions by attempting to quantify solitude using the ROS semi-primitive (SP) lands. Moreover, the GW then violated the Regional Forester’s 1995 guidance by requiring semi-primitive cores, rather than using them only as a guide, and by not fully examining the “on the ground” characteristics of individual areas to assess whether they possess opportunities for solitude.

The guidance and the GWNF’s inventory and evaluations also excluded areas based on “sights and sounds” from outside areas, which legislative history demonstrates Congress does not intend the Forest Service to consider in interpreting and applying the Act’s definition of wilderness, and its solitude and recreation language. The GW also excluded a number of areas that it viewed as too small, too narrow, or too irregularly shaped, despite the fact that Congress has designated as wilderness many such areas, including areas in Virginia.

Action -The Conservation Alternative has the desired future condition of a forest that maintains and restores of large habitat blocks on the forest, and the restoration of the forest to its natural steady-state condition where ecological processes create a mix of habitat types which preserve the ecological integrity and connectivity. The desired future condition of the GW is one in which all and any areas qualifying for wilderness study are so designated. This would include areas excluded from the flawed potential wilderness inventory and all Virginia Mountain Treasures areas. This fulfills the need for increased wilderness, distributed throughout the forest, covering a representation of many and different forest types and ecosystems. Through an aggressive program of proposed and active road obliterations, and inholding and adjacent land purchases within the purchase/proclamation boundaries of the GWNF, additional areas could be added to the inventory and existing ones could be increased in size.

Priorities for Wilderness Study Areas would include those areas that are the largest, the most biologically intact, that significantly increase the size of existing wilderness areas and those that would represent a significant distribution of areas throughout the forest. The entire Little River Roadless Area, Big Schloss (including Three High Heads), Ramsey’s Draft Extension, Laurel Fork, Rough Mountain Addition, Jerkemtight/Benson’s Run, Short Mountain and Mill Mountain, Saint Mary’s Additions, Shawver’s Knob Addition, Massanutten North, and Beech Lick Knob would be listed as Wilderness Study Areas. Areas also designated would include, but not be limited to, Adam’s Peak, Archer Knob, Kelley Mountain,

Big Levels, Three Sisters, Beard's Mountain, Crawford Knob, Dolly Ann, Duncan Knob, Elliot Knob, Galford Gap, Gum Run, High Knob, Little Mare Mountain, Oak Knob/Hone Quarry Ridge, Paddy Knob, Potts Mountain, Rich Patch, Shaw's Ridge and Three Ridges Additions.

Some areas in the old RARE II areas that were omitted from the potential wilderness area inventory include: the area northwest of the High Knob PWA to the FS boundary (old Dry River RARE II - 16135 ac.), a portion of Laurel Fork RARE II going inside, a portion of Toms Knob (Potts Mtn PWA) north of inholding (Barbours Creek RARE II), Jonnies Knob Virginia Mountain Treasure, Great North Mountain Virginia Mountain Treasure, portion of Big Schloss Virginia Mountain Treasure going all the way up to Anderson Ridge (36526 ac), Elliott Knob - area SE of tower (12,075 acres total), South Massanutten, and some possible areas on NE side of Rich Hole .

9. Water Quality, Drinking Water Watersheds, Riparian Areas, Soils, Sedimentation and Acidification

In the current Forest Plan, most of the attention given to water resources focuses on riparian areas. There is no attention given to the significance of considering entire watersheds.

On the GWNF intense ground-disturbing management activities continue to take place that harm or degrade riparian and aquatic conditions and biota. Riparian areas are the transition zones between aquatic and terrestrial habitat. They are the vegetated areas around all stream channels, seeps, springs, wetlands, bogs, ponds, lakes, and impoundments. They are identified by characteristic types of vegetation, soil, and land forms, as well as interactions between aquatic and terrestrial ecosystems (*e.g.*, faunal movements, shade, or additions of leaf litter and woody debris). Riparian areas vary in width depending on the size and location of the waterway. They are particularly vulnerable when associated with steep slopes or sensitive soils. In addition, numerous roads on the Forest are adjacent to and cross watercourses.

The biotic populations of some perennial streams, and intermittent and ephemeral tributaries, even if a "fishery" may be absent, may be close to or beyond threshold levels of tolerance for sediment. No standard for sediment has been set by the states (VA & WV) so the burden is on the Forest Service to set appropriate standards and to effectively monitor sedimentation rates. Various Forest Service management activities result in adding tons of sediment to Forest waters. These sediment loadings are long-term and chronic. Thousands of miles of roads are constantly contributing sediment. Timber sales typically add their loads to small first-order streams that are most vulnerable. The agency often does not know the status and trends of aquatic populations in these affected streams. In addition, the FS improperly analyses impacts, using a greater watershed for the scope of analysis and not adequately evaluating impacts to

site-specific areas.

High sediment loads impair stream populations and productivity (Henley, W.F. *et al*. 2000). For instance, fine sediment considerably impairs Trout hatching success and recruitment to populations.

“Timber harvesting can directly affect sediment transport in streams if it increases (or decreases) the supply of sediment, if it alters the peak flow or the frequency of high flows, or if it changes the structure of the channel by removing the supply of large woody debris that forms the sediment storage sites. Bank erosion and lateral channel migration also contribute sediments if productive vegetation and living root systems are removed.” (JNF FEIS 3-158) Logging often occurs at sites with steep slopes and soils with erosion concerns.

Roads greatly affect sediment loading and the timing and volume of stream discharges. In fact, roads are the chief source of human-caused sediment delivered to many of the Forest’s streams. The sediment that chronically empties into stream channels from roads is ongoing and does not stop.

Once sediment is deposited in a stream channel, its effects can persist for decades or even centuries (Frissel, 1996)." (JNF New Castle RD Enterprise TS EA-42) So a project such as a timber sale can potentially result in significant impacts to channel condition and population viability or distribution. And 10-15 years (or less) after adding sediment to a stream channel at a project area, the FS often returns to that project area and implements another project that adds still more sediment to the stream (cumulative impacts).

For logging projects on the Forest, most, if not all, of the ground disturbance typically occurs in small tributary watersheds and headwater valleys. Project implementation delivers tons of additional sediment to these tributaries. It is the effect of the sediment on the quality of these upstream and headwater tributaries and their biota that is the concern. And just because a tributary is “intermittent” does not mean it is not important habitat. That sediment increases from a project may be “immeasurable” and “insignificant” further downstream does not address the impacts to the upstream on-site tributaries and their biota.

Agency assertions that project effects will be insignificant are also based on the assumption that Best Management Practices (“BMPs”) will be properly implemented. However, the ineffectiveness and lack of enforcement of BMPs/Plan Standards and other mitigation measures on the GWNF was documented by the USDA Office of Inspector General in 1999.

The full riparian areas of permanent and intermittent streams are not necessarily protected from logging on the GWNF. Under the current Forest Plan, only the first 66 feet of the riparian areas around perennial streams are considered unsuitable for timber management. The GWNF Plan provides for a vehicle

exclusion zone" of only 33 feet around intermittent streams (GWNF LRMP 3 - 148). Ephemeral streams receive no direct protection in the GWNF Plan. And old stream channel braids that are presently dry are also open to cutting. Springs and permanent seeps are not protected. For example in the Paddy (cutting unit #2) and Slate (cutting unit #3) timber sales, logging occurred right over top of such sensitive habitats.

Riparian zones are not just buffers for aquatic habitat, but are themselves core habitat for various taxa. So the riparian zones/areas themselves need to be buffered from, for example, edge affects or recreation or roads. The upper watershed or upslope habitat can be just as important as the narrowly defined "riparian" habitat.

The GWNF provides drinking water to many thousands of residents in western Virginia. Containing headwaters of the James, Shenandoah, and Potomac Rivers, outflow from the GWNF is also a source of drinking water to millions of downstream residents of the of the Washington, DC and Richmond, VA metropolitan areas (Wild Virginia 2008).

The local need for clean water is acute. As documented in *The State of Our Water*, twenty-two localities in western Virginia obtain some or all of their drinking water from surface waters of the GWNF. Several localities rely solely on water originating in the GWNF for their domestic use. Surface waters from the GWNF provide drinking water to more than 262,000 residents in these communities (see Table 1, from Wild Virginia 2008). This figure is very conservative, as institutional (schools, hospitals, etc.), commercial, industrial, and agricultural users were not included in the estimate.

A large percentage of the GWNF land area is within these local drinking watersheds. Five reservoirs in the GWNF – Pedlar, Coles Run, Smith Creek, Staunton, and Switzer Lake – provide drinking water to nearby cities and communities. The reservoirs and their watersheds are approximately 68,086 acres in size. This represents 7.1% of the approximately 956,990 acres of the GWNF in Virginia. Approximately 357,788 acres of the GWNF comprise the watersheds for drinking water intakes on area rivers. This represents 37.4% of the GWNF lands in Virginia. The combined 425,874 acres within local public drinking watersheds represents approximately 44.5% of the total land area of the GWNF in Virginia.

There is cause for concern about water quality in the GWNF. Data from the Virginia Department of Environmental Quality in 2006 lists 6 reservoirs and 50 streams or rivers within the GWNF as impaired (Virginia DEQ 2006). Slightly more than 154 miles of streams and rivers within the GWNF in Virginia are impaired. Four of the six impaired reservoirs occur within drinking watersheds, with drinking water being directly drawn from two of them. The drinking watersheds contain more miles of impaired streams than would be expected

based on the land area they occupy. Four of the six impaired reservoirs occur within drinking watersheds, with drinking water being directly drawn from two of them (the Pedlar and Staunton Reservoirs). The drinking watersheds contain more miles of impaired streams than would be expected on the land area that they occupy. However, none of the reservoirs are impaired for use as a public water supply.

While many of the causes of impaired waters are beyond the control of the Forest Service, the large presence of impaired waters in the GWNF means that more should be done to protect water quality. Acidic waters and waters not fully supporting aquatic life are the two most common impairments in the streams and rivers. Though acid deposition is a major source of the problems, other stresses are likely at work too. As the Environmental Assessment for the Cubville Project (and numerous other Forest Service documents) explains, "On National Forest System land, sedimentation is the primary factor in water quality degradation. Sedimentation may be introduced into stream channels from soil disturbing activities such as timber harvesting and road construction." (p. 19, USDA Forest Service 2007a). The Conservation Alternative emphasizes management that mediates the acidic degradation to soils by reducing or eliminating the loss of topsoil and compaction of soils from timbering, road-building and off road use.

Benthic macroinvertebrate assessment impairments can be related to sedimentation. Other stresses can also contribute to this impairment. Unfortunately, data from DEQ lacks sufficient detail to ascertain the role of sedimentation in the impaired waters of the GWNF.

The current Forest Plan does very little to address drinking water resources. The plan identifies drinking water reservoirs, but does not address the watersheds within which the reservoirs occur. No other public drinking water sources are identified or discussed, and no watershed maps are included in the Plan. Management Area 18C is defined as riparian areas adjacent to and 1 mile upstream of seven listed "municipal water supplies (Lynchburg Reservoir, Coles Run Reservoir, Mills Run Reservoir, Clifton Forge Reservoir, Skidmore Reservoir, Staunton Reservoir, and Elkhorn Lake)." (USDA Forest Service 1993)

Under the current plan, management of the GWNF does not differ significantly between drinking watersheds and other areas of the forest. Of the total land area in the drinking watersheds, 34.4% is "suitable for timber production" compared to 34.8% of the land area outside the drinking watersheds. Road and trail densities on the GWNF reveal no consistent differences or pattern when comparing drinking watersheds to the rest of the forest (Wild Virginia 2008).

Managing for watershed protection produces many benefits beyond drinking water protection. Reservoirs function for longer periods of time due to decreased sedimentation. Many aquatic species, terrestrial species, and natural communities benefit from sound ecological watershed management. Outdoor

recreational opportunities, scenic resources, biological diversity, and other forest features are enhanced as well.

Brook trout (*Salvelinus fontinalis*) is a good example of a species that would benefit from stronger water quality and watershed management. The Eastern Brook Trout Joint Venture (EBTJV) has documented the decline of brook trout and the streams and watersheds that support them in the eastern U.S. Virginia is important to the long-term viability of native brook trout populations, as it has a greater number of subwatersheds (usually containing 25-75 miles of streams) with intact brook trout populations than any state south of New York (EBTJV 2006). The GWNF (along with Jefferson National Forest and Shenandoah National Park) is home to many of the remaining trout streams in the state.

There are 700 miles of "cold-water" streams on the GWNF in VA, with 635 miles being trout streams (class I-IV). There are only five exceptional wild Trout streams (class I) occurring in the GWNF in VA, totaling only 13 miles. Forest management can impact the quality of these trout streams in a number of ways. The EBTJV (2006) identifies high water temperature as the greatest disturbance to brook trout populations in Virginia. The report also lists poor land management, degraded riparian habitat, grazing, and stream fragmentation (e.g., roads and culverts) as threats. All these threats are present to some degree in the GWNF. Poor land management and degraded riparian habitat can result not only in higher water temperature (with fewer trees to provide shade to streams) but increased sedimentation as well.

Grazing allotments in the GWNF also pose significant problems. As the draft Comprehensive Evaluation Report of February 2007 states, "*Efforts to fence cows out of Shenandoah River have failed and cows continue to cause bank erosion and resulting sedimentation in the grazing allotment(s)*." (USDA Forest Service 2007b, p. 28) Obviously, this situation is highly undesirable and needs to be resolved.

Impaired waters are a significant presence in the GWNF. All impaired waters are impacted by physical stresses, sometimes multiple stresses from multiple sources. Eliminating or minimizing stress will increase the resilience of these aquatic systems.

Action – The Desired Future Condition of the forest as put forth in the Conservation Alternative is a forest that maintains and improves the integrity of all drinking water watersheds and riparian areas.

Under the Conservation Alternative, all the Forest's streams, perennial, intermittent, and ephemeral, and their associated terrestrial habitat are strictly protected from harmful developments such as logging and road building. The strictly protected zone extends at least 200-300 feet out from both sides of a stream channel or the entire defined site-specific "riparian area", whichever is

greater; they are not suitable for logging, road construction, or other development. Expansive no-disturbance protective zones are applied to all the Forest's perennial, intermittent, and ephemeral streams. Road decommissioning and obliteration to restore watershed integrity are a priority.

Riparian Guidelines are created under the Conservation Alternative requiring precise field delineation of all riparian areas. These guidelines ensure the protection of conditions upslope of the riparian area that contribute to the integrity of the defined "riparian area", protect ephemeral and intermittent channels and provide more rigorous protection of riparian areas in areas with high road density or more intensive management activities. The Conservation Alternative provides standards and guidelines requiring the proper site-specific consideration and analysis of the effects of sedimentation. The cumulative impacts of sedimentation are fully and fairly examined in the EIS for the revised Plan.

Forty localities and organizations have adopted resolutions calling on stronger protection of drinking water resources and watersheds in the GWNF. Five requests that are common and consistent among the resolutions are listed below. The Conservation Alternative meets these objectives by 1) formally identifying all watersheds that provide drinking water to local communities. 2) Forest Service staff would be directed to communicate more effectively with communities obtaining drinking water from watersheds and reservoirs within the GWNF. 3) It would implement a program to improve data gathering and collection efforts in order to better describe and assess water quality and watershed conditions. 4) The Conservation Alternative establishes management objectives of for entire watersheds in order to maintain, protect, and enhance water quality. 5) It would set out and implement a plan to coordinate with local communities, other agencies and the public to develop policies and management plans for drinking water watersheds.

All Inventoried Roadless Areas and all possible Wilderness Study Areas identified in the revision process would be managed in accordance with the 2001 Roadless Area Conservation Rule. By eliminating most ground-disturbing projects and activities in these areas, watershed and water quality protection will be greatly strengthened. Sedimentation rates will not be elevated, thus eliminating "the primary factor in water quality degradation" in national forests.

Using the Roadless Area Conservation Rule to manage Roadless Areas would further protect local drinking watersheds. In particular, greater protection would be extended to the North Fork Shenandoah River (through Beech Lick Knob and Big Schloss PWAs) and the six communities that obtain water from it – Winchester, Strasburg, Woodstock, Broadway, Middletown, and Frederick County. Lexington, Clifton Forge, and Front Royal would also benefit, as areas of their drinking watersheds occur within PWAs.

No new roads, including temporary roads and re-opening of roads that have not been used in recent years, would be allowed in drinking watersheds. Absent a truly compelling need, no new roadways would be created.

Road closings and decommissionings (i.e., the restoration of original slope, topography and hydrologic conditions, removal of invasive species if present, revegetation) is very desirable for watershed and forest restoration. A much higher goal (in terms of miles/year) would be established.

Enhanced methods of monitory water quality would be established. The current system of macroinvertebrate sampling in streams forest-wide, augmented by sampling for the Virginia Trout Streams Sensitivity Study, is good. No direct monitoring of sedimentation currently takes place in the GWNF, however. As "the primary factor in water quality degradation" in national forests, affecting both aquatic wildlife and drinking water resources, more information and monitoring of sedimentation would be implemented. Sedimentation monitoring would be required for all surface disturbing projects and activities on the forest.

The Conservation Alternative would include strategies and a framework for addressing impaired waters. Several other national forests, including the Monongahela, White Mountains, Green Mountains, Wayne and Allegheny, have a significant number of streams impacted by acid deposition, just as the GWNF does. Each of these forests is addressing the problem of acidic streams, and the GWNF would as well. Treating Saint Mary's River with limestone sand, as has been done in the GWNF, is a good example of taking action to improve impaired waters.

The Conservation Alternative eliminates the use of grazing allotments and considers them an incompatible use of land in the GWNF. Trout streams on the GWNF receive expanded and strengthened protections in the revised Plan. All benefits under the Conservation Alternative with regard to increased water quality will be factored in to computation of the net public benefits.

10. Old Growth and Climax Forests

There is little true old growth forest remaining in the GWNF. As a result of past and ongoing depredations, old growth forest habitat is now considered "critically endangered" in the Southeast, with old growth surveyors and analysts estimating that little more than one-half of one percent of the forest cover in the southeastern US is in old growth condition (USDA FS 2002 at p. 20; see also, Noss, R. *et al.* 1995 at p. 50). Gradually maturing forests are just beginning to fill in the gaps between these sparse, tiny old growth patches.

Despite this depauperate and devastated landscape context, old growth is regularly cut down on the GWNF and considered "suitable for logging." For instance, old growth acreage of "dry-mesic oak" is currently considered to be

“suitable” for logging. This “forest type group” (OGFT #21) is the most prevalent on the Forest, making up 678,000 acres or 64% of the Forest (see FEIS App. H – 3).

Despite the extreme rarity of eastern old growth, the current plan infers there is an “adequate” amount to cut. This has somehow been subjectively determined in light of the fact that there is no meaningful attempt to identify old growth “on the ground” by doing old growth analysis as part of all projects on the forest.

Old growth has been a topic of intense conflict during the last decade in the GWNF. There is a clear need for a change in the GW Plan direction that allows the cutting of some forest types of old growth. There have been numerous examples of areas have been demonstrated to correlate with the FS definition which your own personnel and analysis has failed to identify, such as at Hematite, Hoover Creek, Signal Corp Knob, the Hamilton Draft area, or Marshall Run.

There currently exists no analysis or plan for allowing climax forest conditions to return to ecologically significant areas of the forest, distributed geographically. Climax conditions include, but are not limited to, old growth. Climax conditions present a true “no manage” alternative to create desired future conditions. They present a natural mosaic of stable and resilient forest. The GW has no areas that can be so defined but only old growth areas have the potential of creating eventual climax communities. Currently wilderness areas have the only possibility of creating this forest type and are of insufficient size and are insufficiently distributed throughout the forest

Action – The Conservation Alternative creates situations for a forest in its natural steady-state condition where ecological processes create a mix of habitat types that preserve the ecological integrity of the forest. It creates the situation for a large and continual increase in old growth areas over the next 10-15 years. All acreage that meets GWNF FEIS age criteria or the Region 8 Old Growth Guidance criteria, whether it consists of a complete “stand” or not, is designated as unsuitable for timber harvest or other intensive ground disturbance. The currently unreasonable requirement for the number of large or old trees per acre is reevaluated and revised according to best conservation practice and scientific information. The ages of the oldest trees will be accurately identified, and improperly determined timber inventory data that does not gauge the true age of a site must be discarded.

The Conservation Alternative calls for the conscientious identification of small, medium, and large tracts of old growth as Core Conservation Areas and their potential for forest wade distribution and connectivity through the use of linkages and corridors will be evaluated and implemented. Areas with climax forest potential are identified as are surrounding buffer areas. Each are given their own

management prescription and are unsuitable for timber or vegetation management or ground disturbance.

11. Invasive Species

Nonnative Invasive Species are a serious ecological threat to virtually every square inch of the GWNF but the existing plan fails to address ways to prevent their further spread while working to reduce and eliminate their presence and harmful impacts.

Goal #2 of the USDA Forest Service Strategic Plan for Fiscal Years 2004-2008 states on page 9: "Reduce the impacts from invasive species. Outcome: Improve the health of the Nation's forests and grasslands by reducing the impacts from invasive species."

"Invasive species—particularly insects, pathogens, plants, and aquatic pests—pose a long-term risk to the health of the Nation's forests and grasslands by interfering with natural and managed ecosystems, degrading wildlife habitat, reducing the sustainable production of natural-resource-based goods and services, and increasing the susceptibility of ecosystems to other disturbances such as fire and flood." Aside from effects on the natural ecosystem, these invaders also detract from visual quality along roadsides, which may affect tourism.

"Habitat fragmentation (the division of forest and grassland habitat into smaller, more isolated patches) limits containment and eradication of invasive species."

"The best defense against invasive species is either preventing their introduction or aggressively eradicating newly detected pest species."

There are several external factors outside the control of the Forest Service that might affect progress toward this long-term objective, including the following: "Increasing demands on the agency's human and financial resources and the resulting reduced ability to work with and through other jurisdictions and stakeholder groups; accelerated susceptibility and mortality of forest trees from drought, insects, and pathogens; and introduction of new species of insects, pathogens, and invasive plants into the United States."

Forest Service data from the Wayne National Forest Plan Final Environmental Impact Statement (USDA Forest Service, Wayne National Forest, Final Environmental Impact Statement for the 2006 Land and Resource Management Plan, ttp://www.fs.fed.us/r9/wayne/planning/2006_docs/final_eis_docs/index%20to%20feis.html)states that: "Worldwide, NNIS are considered to be the second-leading threat to biodiversity; only habitat loss is a greater threat. NNIS plants are estimated to infest 100 million acres in the United States, and invade an

additional three million acres annually. Estimated damages and losses due to NNIS are $137 billion per year. This figure includes losses to commercially important sectors (e.g., agriculture and livestock), but not the more intangible, non-market impacts, including impacts to natural ecosystems. NNIS are the primary threat to 49 percent of all imperiled or federally listed species.

The spread of invasive species such as Asian Stiltgrass, Garlic Mustard, Multi-flora Rose and Ailanthus is occurring throughout the Forest. These plants may reduce the abundance, species richness, and/or diversity of native flora, fauna, and fungi. These impacts in turn can have cascading negative effects upon native species of biota. The direct, indirect, and cumulative impacts upon native flora and fauna from these invasives may be or become significant.

The presence of non-native invasive plants continues to increase in the GWNF. According to the Shenandoah Valley Chapter of the Virginia Native Plant Society, these populations include, but are not limited to the 10 most common NNIS observed in areas of the North River Ranger District: Ailanthus altissima - Tree of heaven; Elaeagnus species (angustifolia, pungens, umbellata) - Russian olive, Silverthorn, Autumn olive; Ligustrum sinense – Privet (Chinese and European); Lonicera species - Honeysuckles, 4 species (bush and vine); Lonicera japonica - Japanese honeysuckle; Rosa multiflora - Multiflora rose; Lespedeza species - includes Shrubby lespedeza; Celastrus orbiculatus - Oriental bittersweet; Microstegium vimineum - Japanese stilt grass, Nepalese browntop; and .Alliaria petiolata - Garlic mustard.

Non-native invasive plant species tend to invade and establish themselves in areas where disturbance has occurred, such as vegetation removal, canopy opening, or soil exposure. NNIS often occur along roads and trails where there is concentrated soil disturbance, and in other areas with bare or disturbed soil, including trailheads, parking lots, developed and dispersed recreational sites, popular fishing locations, and other heavily used areas. Once they are established in an area, they can continue to spread along areas of continued disturbance, such as roads, trails (both official and illegal user-created trails), and streams. NNIS are transported into new areas by a number of means, including people, vehicles and machinery, animals, birds, wind, water, fire, and rain.

Timber management and harvesting techniques help spread NNIS plants through use of heavy machinery, canopy removal, earth disturbance and the movement of forest products on skid trails, logging roads. Herbicide use and timber stand improvement activities for oak regeneration or other management purposes will create increased light environments within the forest that can increase NNIS risks.

Forest Service activities that have as their intended management objectives the creation or management of habitat for wildlife, endangered species, visual

quality, recreation or biodiversity often have the secondary effects of enhancing habitat for the introduction and spread of NNIS.

Roads are fragmenting agents that increase forest edge habitat. Road construction, maintenance, and use provide continuous soil disturbance, and often act as corridors for NNIS dispersal. NNIS have some of their highest densities along permanent, administrative and temporary roads as well as old logging roads, landings and wildlife openings.

Fires can facilitate introduction and dispersal of many NNIS. Prescribed fires in particular involve the following activities that can facilitate NNIS establishment and dispersal, such as: soil disturbing activities during fire line construction and from emergency roads cut through the forest to stop a prescribed burn that moved outside its boundaries; vegetation and canopy reduction through burning; the reduction of soil protecting litter. Areas on the Forest that have been burned repeatedly are overrun with invasives (such as at the Shenandoah River on the Lee RD, as observed by Krichbaum, S. 2007). Studies found the alien herb Garlic Mustard (*Alliaria petiolata*) persisted and had greater abundance in burned plots (Bowles, M.L. *et al*. 2007). Also the NNIS risks of Mechanical Hazardous Fuel Removal will increase when construction of temporary trails and roads for motorized equipment access are needed.

The effects of NNIS on drainage areas, streams and tributaries can be very significant and are often overlooked in project analysis. With the high runoff from disturbed areas, NNIS are spread throughout the riparian areas and can negatively impact native riparian and wetland species. For example, Asian Stiltgrass (*Microstigeum vimineum*) is increasingly problematic in the Eastern United States; recently it has invaded numerous sites on the GWNF (Krichbaum, S., personal observation). It rapidly invades after canopy disturbance, frequently at moist forests and stream banks (habitat for species such as the Wood Turtle), and displaces native vegetation (see Oswalt, C.M. *et al*. 2007).

The hemlock wooly adelgid continues its spread and has already significantly damaged significant areas of the Forest (*e.g*., Skidmore Fork and Ramseys Draft). The current plan has no mention of this biological catastrophe and no plan to actively and explicitly deal with halting its spread.

Action – The Desired Future Condition of the forest is one where the spread of NNIS is monitored and restricted or eliminated to the maximum extent possible. It contains an active strategy for protecting the integrity of rare native plant communities. The Conservation Alternative sets direction for control, repression and elimination of NNIS. All precautions are taken to prevent disturbances that can introduce NNIS to remote, interior, roadless and other areas where they have previously been absent. Reducing ground disturbances of all kinds and meticulous cleaning of vehicles, machinery and tools are also important strategies to prevent new NNIS encroachment.

Under the Conservation Alternative, management actions are based on good quality, detailed, and site-specific information. The spread and impacts of NINS on the forest are actively monitored and suppressed. Sound professional judgment is required as well. Simply designating a species as non-native and invasive can be somewhat subjective, depending on how long a species has been established in the region. Species also vary in their “invasiveness”, or ability to invade new areas and establish themselves. Negative impacts to native species and ecosystems also vary with species, and sometimes with the length of time a NNIS has been established. All these factors, combined with site-specific characteristics, must be considered when controlling NNIS. Without a comprehensive analysis and approach, potential remedies, such as intensive herbicide use and/or physical removal of NNIS, may do more harm than good.

Given that the most common management activities that occur in the GWNF all have the potential for facilitating the spread and establishment of populations of NNIS, the Conservation Alternative includes significant reductions in projects which cause vegetation disturbance, soil disturbance and habitat fragmentation, including timber projects, salvage sales, creation of early-successional habitat and wildlife openings, road construction or reconstruction and prescribed fires. When these types of projects are carried out, consideration is given to confining them to specific geographic areas, since confining potential NNIS problems to specific areas, as opposed to wide dispersal across the GWNF, makes combating them more practical and effective.

The Conservation Alternative emphasizes management actions that would reduce the risk of the introduction and spread of NNIS. These actions include significant road closures, decommissionings, obliterations and the manual removal of NNIS from established areas, especially newly colonized areas and areas of recent vegetation and soil disturbing activities. Methods are incorporated into all project analysis, planning, implementation, and monitoring to prevent spread of current NNIS infestations and to prevent new invasions.

12. Climate Change and Carbon Sequestration

Global Climate Change is one of the most serious environmental, social, and economic threats the world is facing today. Global climate is influenced by changes in land cover. Large-scale conversions of forestland into agricultural land or urban development reduce carbon storage and the potential for sequestration and thus contribute to the build-up of carbon dioxide in the atmosphere. Global warming can affect forests by introducing new invasive plants, insects, and animals that expand their range as temperatures increase. Also, the forest could be put under increased stress from extreme weather events, changed weather patterns and seasons (warmer winters, for example), and increased likelihood of drought and forest fires.

Changing climate affects areas as forest types change, species find areas to establish populations outside their present or historical range and as weather patterns change which can effect all ecological parameters (for instance, air and water quality and temperature, increased intense weather events-drought or deluge-, etc). The retention and restoration of full altitudinal gradients is of crucial importance in order to accommodate faunal and floral population/community shifts upslope to cooler conditions in response to climate change. (Graham, R.W. 1988).

The warming of the atmosphere is linked to increased concentrations of greenhouse gases, including increases in carbon dioxide from changes in land management. Even though forests in the U.S. have acted as net carbon sinks since the 1950s, the annual additions to the sink (sequestration) appear to be declining. The Environmental Protection Agency lists the following forestry practices that can sequester carbon or preserve carbon storage: afforestation, reforestation, avoided logging, and longer harvest-regeneration cycles.

Obviously, planned logging and burning and taking out vegetation for other reasons do not increase the capacity of the GW as a carbon sink. "In fact, young forests rather than old-growth forests are very often conspicuous sources of CO2 because the creation of new forests (whether naturally or by humans) frequently follows disturbance to soil and the previous vegetation, resulting in a decomposition rate of coarse woody debris, litter and soil organic matter that exceeds the NPP (net primary production) of the regrowth." Luyssaert et. al. 2008. Old-growth forests as global carbon sinks. Nature, Vol 455|11

The 93 Land Resource Management Plan, Record of Decision, and Final Environmental Impact Statement contain no reference to Climate Change. They neither addresses the GW's potential for carbon storage and sequestration and their potential economic value nor analyze potential impacts from global warming on the forest. The 93 Forest Plan does not analyze net public benefit with regard to storing and sequestering carbon, although clearly the delivery of these services are limited in the long run by declaring hundreds of thousands of acres of the forest suitable for timber production.

Action - Climate is a "forest product". Standing forests contribute to carbon storage, air quality, water quality and recharge, humidity and rain patterns. In addition to being efficient regulators of air, water, humidity, and participation and effective wind buffers, large areas of restricted management afford the best long term resiliency and protection of lands and land values given radically changing weather parameters. In response to ongoing and potential climate change a priority goal and objective for the Conservation Alternative is to restore and maintain broad elevational core habitat and corridors throughout the Forest.

Clear and explicit prescriptions, objectives standards and guidelines are created that accommodate faunal and floral population/community shifts upslope to cooler conditions in response to climate change.

Identification and mapping of patches and corridors of mature and old-growth forest (contiguous forest containing "core" conditions of mature and/or old-growth forest supplying expansive elevational gradients and anthropogenically unbroken/unfragmented physical links between relatively large patches containing "core" conditions of mature and/or old-growth forest) is accomplished. These cores/corridors are considered not suitable for logging, road building, drilling, mining, wind turbines, or development. They are priority areas for watershed restoration activities (*e.g*., decommissioning, recontouring, and revegetating of selected roads).

Preferred higher elevation habitat can be lost or fragmented by rising temperatures or changing weather patterns. Such higher elevation habitat is preferred by various species. For instance, surveys in Virginia public forests identified ten species of elevation-sensitive birds (Lessig, H. *et al*. 2008).
The Conservation Alternative ensures that there is no loss of or degradation of habitat within the broad elevational "corridors". Moreover, "corridors" will not be too narrow so as to avoid being overrun with edge effects.

The EIS for the Conservation Alternative will discuss ways in which forest management could contribute to a reduction in greenhouse gases and to maximize carbon sequestration. The Conservation Alternative will strive to meet these conditions.

13. Roads

The GW is overbuilt with roads. The GW lists approximately 3,000 miles of permanent roads. This is vastly understated as this includes only roads in maintenance levels 3, 4 and 5. When all uninventoried permanent roads, all temporary roads, and all roads in maintenance level 1 and 2 are included, the figure is closer to 6000 miles. If placed end-to-end the roads would stretch from your office in Roanoke clear across the United States, all the way to the Pacific Ocean at San Francisco, California *and back again*.

Despite the incredible number of roads in the GW, it should be noted that roads are not a measure of access to the forest, but ease of access. Virtually every square inch of the forest, with the exception of administrative buildings and the Warwick Mansion during "closed" hours, is totally accessible. There are virtually no areas where access is restricted.

80% of the GW is within 1/2 mile of an existing road. This infers that some of the rarest and most special lands in the GW are those areas that have the lowest

road densities and areas that are the farthest in linear distance from existing roads.

The road density standards that currently exist only apply to “open” permanent Forest Service system roads meaning that the Forest Plan allows an unlimited mileage of “closed” and “temporary” roads to be constructed. There is no clarity on the difference between “unimproved” roads and “improved” ones. It is not at all clear what roads are counted toward calculating road densities to identify NF sites to be added to the roadless areas inventory and/or evaluating said areas. Plus, perimeter roads do not count in the calculations. Further, there is no standard that requires road density Standards to actually be met within any set time (see MA and Forest-wide Standards at the LRMP 3 – 4-158).

After seventeen years of “striving” on the GWNF, the FS is still not meeting road density standards on hundreds-of-thousands of acres. Given the inaccuracy of the mileage figure, the average road density of the GW is obviously greater than the 1.55 miles per square mile, closer to 3.0 miles per square mile. This is six times the trail density of approximately .5 miles per square mile.

Many, if not most, of the 6000 miles of roads serve no purpose and are clearly unnecessary in the GWNF. The FS has not identified, as directed, the minimum road system needed.

At present only two Management Areas on the Forest, MAs 14 and 15, have road density Standards; so 53% of our GWNF has no existing Plan standards limiting road density. Road density exceeds Standards on approximately 300,000 acres, or around 28%, of our GWNF. The Forest-level “roads analysis” conducted in 2003 is inadequate for making management decisions regarding the road system on the forest and insufficient for addressing issues and concerns raised by the public.

It is impossible to discuss roads without also discussing the fragmentation, edge effects and sedimentation that accompanies them. Roads are the most significant cause of forest fragmentation within and upon the George Washington National Forest. Roads also create edge effects. One of the most prominent of these is the proliferation and spread of non-native invasive species. Roads more effective at spreading invasives than transporting human beings. While people are temporary visitors, invasives become permanent residents. This is also considered one of the most significant issues to be addressed in the Forest Service Strategic Plans.

Just as roads increase access for invasives, they create barriers to migration of native flora and fauna. The islands that roads and their edges create isolate populations and reduce the viability of many populations. In times of changing climate they prevent many species from being able to move through the forest,

creating “death traps” for many species with small ranges such as reptiles, amphibians.

There is a significant lack of information in the GW regarding road amounts, densities, edge effect zones, and fragmentation. These are basic baseline data essential for the agency to benchmark and measure its performance, essential for successful implementation of the agency’s strategic plan, and essential for accountability to the public. Further, this baseline data is necessary for setting and validating objectives, desired conditions, guidelines, goals, standards, prescriptions, and/or allocations for the Forest. Without this gathering and analysis and monitoring of baseline data, the FS is unable to ensure that it is meeting its mandates regarding diversity, natural forest conditions, viability, and public accountability.

Roads are expensive to engineer and build and even more expensive to maintain as permanent roads. They increase the need for law enforcement by expanding the area that can be accessed by legal and illegal vehicles. The ecological damage that is done to the forest yearly is directly proportional to miles or acres of access and has never been estimated but is ecologically significant.

Action – The Conservation Alternative would include information and EIS analysis of a clear, current and accurate roads analysis on the GWNF. Ambiguities regarding definitions, road densities and all impacts, including fragmentation, edge effects, sedimentation, invasives, and human impacts concurrent with motorized legal and illegal access, poaching and law enforcement, would be clarified and analyzed. Candidates for road closures, decommissionings and restorative obliterations would be prioritized based on ecological integrity parameters and restoration goals. All road closures would be considered to be additions to or remain as part of the existing trail system.

Given the massive inventory and distribution of existing roads in the GW, it is inconceivable that there would be *any* acceptable objectives for new road construction. At the very least Certainly no new roads of any maintenance level, permanent or temporary should be built in: drinking water watersheds, Virginia Department of Natural Resources/Natural Heritage Biological Sites, existing or potential Roadless or Wilderness Study Areas, watersheds containing populations of native brook trout, areas with already low road densities, Virginia Mountain Treasure and remote interior or core conservation areas.

Under the Conservation Alternative, comprehensive guidelines would be established for performing site-specific road analyses at all project areas with roads that will be used to implement the project, regardless of the project area’s location or of whether road construction or reconstruction are planned as part of a site-specific project.

The Conservation Alternative would limit any money targeted for roads to maintaining the existing road system, with priorities given to roads that are absolutely essential for links between communities or provide existing access for private lands and inholdings and implementing road closures, decommissionings and obliterations. These actions would achieve the Desired Future Condition by preserving and enhancing the ecological integrity and health of the forest.

An objective for the Conservation Alternative is to set a goal for this Forest Plan is to achieve conditions where the density of open Forest Service roads is no more than 0.8 miles per square mile across the entire Forest. This moves the forest in the direction of achieving the Desired Future Condition. The objective over the next 15 years should be to reduce the total road mileage on the Forest to 1984 levels (1330 miles). This work will provide many jobs to local communities. To accomplish this watershed rehabilitation work, reallocate monies presently spent on administering timber sales.

14. Primitive Recreation

In the 1993 Forest Plan, the potential for primitive recreation opportunities was not adequately considered. The Forest and Rangeland Renewable Resources Planning Act of 1974 directed the Secretary of Agriculture to prepare a Renewable Resources Assessment in 1975 with updates in 1979 and each 10th year thereafter. These assessments are to include "an analysis of present and anticipated uses, demand for, and supply of the renewable resources, with consideration of the international resource situation, and an emphasis of pertinent supply, demand and price relationships trends".

“The sense of creativeness, refreshment and pleasure which the recreationist has while recreating or having a good time can be viewed as the recreationist realizing satisfactory experiences. The recreationist attains these satisfactory experiences by participating in preferred recreation activities in preferred surroundings or settings. Therefore although the recreation resource manager manages settings, he or she does so to provide opportunities for recreation experiences and the benefits those experiences produce for individuals and society. Those experiences are influenced by many factors: the settings, the activities, other resources present, activities by managers, and by the values, expectations and other characteristics of the recreationists. These factors interrelate to define outdoor recreationists' needs and the way these needs are met by management action.

Managing for recreation requires different kinds of data and management concepts than does most other activities. While recreation must have a physical base of land or water, the product - recreation experience - is a personal or social phenomenon. Although the management is resource based, the actual recreational activities are a result of people, their perceptions, wants, and behavior.

The word opportunity is defined as a combination of circumstances favorable for a purpose. The purpose or goal of the recreationist, as discussed above, is to realize satisfying experiences. This is done by participating in preferred activities in preferred environmental settings. Thus, recreation opportunity is the availability of a real choice for a user to participate in a preferred activity within a preferred setting, in order to realize those satisfying experiences which are desired.

While the goal of the recreationist is to obtain satisfying experiences, the goal of the recreation resource manager becomes one of providing the opportunities for obtaining these experiences. By managing the natural resource, and the activities that occur within it, the manager is providing the opportunities for recreation experiences to take place. "(USFS ROS Users Guide -1982)

ROS inventory identifies and defines the ROS classes using six criteria: size, naturalness, remoteness, social encounters, access and distance from road. These six criteria reflect the types of settings and experience opportunities the recreationist would expect to encounter. Primitive Recreation is defined by areas with very high degree of remoteness and naturalness; very little or no motorized use within area; 5000 ha or more in size; 3 miles or more from a 'rough' dirt or gravel road.

Eastern forests are so heavily roaded that there is not a single primitive recreation area available in any eastern National Forest. The GWNF has the most and best potential in the east to provide primitive recreational opportunities.

Action – It is not beyond the scope of the GWNF Forest Plan revision process to consider the full range of the ROS and thoroughly analyze any areas that would quality as most closely fulfilling or approximating the criteria for primitive recreational opportunities in the GW. The opportune time for such analysis is during the Roadless and Wilderness Study Inventory analysis. The Conservation Alternative promotes a desired future condition where primitive recreational opportunities are provided which most closely approximate the criterion for primitive recreation as found in the ROS.

The Conservation Alternative identifies the Shenandoah Mountain complex of wilderness, roadless, potential wilderness and Virginia Mountain Treasure areas as having the greatest primitive recreation potential in the forest. All of these areas combined represent and include approximately 300,000 acres. Specifically, Little River's 29,000+ acres fulfill all of the 12 Criteria and factors of primitive recreation with the only exception that the core of the areas lies just less than 4 miles from any roads.

This fact notwithstanding, the EIS for the Revised Plan should identify Little River Roadless Area as the area in the GWNF that most completely meets the definition and most closely fulfills the recreational opportunities of primitive

recreation. The Conservation Alternative would recommend the entire 29,000 acre for Wilderness Study, giving it a level of protection that allows no activities within the area which would diminish or compromise the primitive quality of this area. Moreover, the Conservation Alternative directs planners to make creative proposals for creating primitive recreation opportunities on Shenandoah Mountain by proposing specific, strategic and reasoned road closures and decommissionings, obliterations and land acquisitions which would create a contiguous, roadless potential wilderness area which would fulfill all criteria for primitive recreation in the George Washington National Forest.

15. Semi-primitive, Non-motorized Recreation

Visitors to the GWNF come to experience the natural beauty of the forest. Most people come to the GWNF to picnic, hike, camp, view birds and other wildlife, view and photograph scenery, pick mushrooms, nuts and berries, bike, fish, or hunt. By the Service's own analysis, the future demand for semi-primitive non-motorized recreation is expected to greatly exceed supplies. Yet under the 1993 Plan, recreational opportunities and scenic beauty have been lost, diminished and damaged.

Around 70 miles of the world-renowned Appalachian Trail traverse the Forest. The estimated income and jobs contributed to local economies from recreation and wildlife on the National Forests is over 30 times that derived from logging these Forests (Niemi and Fifield at 21). A similar relationship (around 30:1) holds for the extrapolated value of unroaded and wild areas (*id*.). Yet the Forest Service budget priorities reflect otherwise, with around 40% of expenditures on the Forest going to timber sales and roads. (M&E Reports numbers and FEIS cite)

Some GWNF lands provide a sense of remoteness, stillness, and solitude. Such opportunities are rare and precious, especially in such close proximity to the highly populated and developed urban areas of Northern Virginia, Richmond and Baltimore. Currently these semi-primitive non-motorized lands comprise only 14% of the Forest.

The Forest Service defines recreational opportunities by the amount of roads an area has, or its distance from them. There are over 53,000 miles of roads in Virginia and over 160,000 miles of roads in the Southern Appalachian region.

Recreational use of designated Wilderness has increased substantially over time; in the South, visitation of National Forest Wilderness in 1996 was 5 times what it was in 1975 (Loomis & Richardson 2000 at 9). This implies a continuing strong demand for the types of non-motorized recreation opportunities afforded by roadless areas and other wildlands. Visitor use of Wilderness Areas on southeastern National Forests is forecasted to grow by about 1% per year for the next fifty years (Loomis & Richardson 2000 at 11). It is clear that the demand for

backcountry dispersed recreation opportunities is increasing in an environment of diminishing supply (Roadless Area CR FEIS 3-215).

Action – The Conservation Alternative significantly increases the amount of semi-primitive non-motorized and semi-primitive non-motorized 2 acreage on the forest. A listing and map with all the Forest's trails clearly identified is provided in the public documentation, including which trails allow mountain biking. The Conservation Alternative requires that timber sales not be placed next to trails and other important recreational areas on the Forest.

16. Developed and Motorized Recreation: Off Road and All Terrain Vehicle Opportunities

Supplies of developed or motorized forms of recreation are estimated to be already well sufficient to meet demand. The 1993 Plan, however, allows and facilitates the construction of additional roads that increases the current surplus of motorized access while destroying or degrading remote features in short supply. (See the numbers in GWNF and JNF FEISs).

The current plan includes consideration of the Archer area on Great North Mountain in Augusta County. This despite the fact that ATV use in the GWNF is incompatible with any other use of the forest and creates more (and well documented) ecological damage than any other public use of the forest.

The GWNF's Chief Law Enforcement Officer has stated that illegal ATV use is the "number one threat" facing our GWNF and that illegal motorized trespass is an ongoing problem that is not under control (GW-JNFs 2004 M&E Report at p. 19). However, the current plan does not consider the degree to which its own roads and logging trails facilitate illegal OHV use. Neither is it assessed at the project level. The cumulative effects of illegal accesses facilitated by administrative, temporary or seasonally gated roads has never been sufficiently analyzed.

Illegal motorized trespass or evidence of such has been observed by citizens at the Potts Mountain Pond and Maple Flats special biological areas; within streams, such as Sours Run; within areas of known habitat for at-risk wildlife (such as Wood Turtles); within unroaded areas at Crawford Mountain, Big Schloss, Slaty Mountain, and Great North Mountain; and in many other so-called "protected" areas on the Forest. The existing Peters Mill Run ATV is located in dangerous proximity to Peters Mill Run, a special biological area.

Action - The Conservation Alternative actively promotes the restoration and preservation of ecological integrity on the forest in achieving its desired future condition. The FEIS examines and evaluates the option of eliminating any use of ATVs and ORVs on the forest with the exception of permanent roads. The

Conservation Alternative identifies ATV areas as an incompatible use of the forest and closes and creates a restoration plan for Peters Mill Run ATV. This will encourage private forests and lands to provide ATV opportunities for private financial recreational opportunities and community income which will not be in direct competition with the once “free” access provided in the GWNF.

As the road system in the forest shrinks, so will the opportunity for illegal and ecologically destructive ORV/ATV use in the forest. This will also make the existing levels of law enforcement on the forest more effective and efficient.

17. Timber Production

The forests of the George Washington National Forest are beautiful, diverse and unique. Because they lie south of the glacial expanse of the last ice age, they contain a broader diversity of species than any forests to the north. The majority of these lands are relatively dry and remote ridges and slopes, neither as fertile nor as wet as most of the lands in Virginia. Yet the current GWNF Forest Plan continues to perpetrate a commercial logging program that is neither ecologically nor economically beneficial to the forest, the public or to the forest landowners in the Commonwealth.

Commercial logging in National Forests is extremely controversial and is opposed by 70% of the American public (US-Forest Service 1986; Market Strategies, Inc. and Lake, Snell, Sosin, Perry, and Associates 1998; GW-J survey?). Most Americans are not even aware that their National Forests are not protected from commercial logging (Mellman Group 1999). The National Forest Management Act was adopted to require the conservation of soils, watersheds, recreation, and wildlife and place limits on the use of even-aged and other “regeneration” cutting. Yet the agency considers such cutting to be virtually required for “forest health” and “multiple-use”.

There are approximately 16 million acres of timberland in Virginia and 12 million in West Virginia; so the amount of land in the GWNF currently considered to be “suitable” (currently 350,000 acres) represents a little more than 1% of the timberland in the two states. The amount of timber cut coming off the GWNF makes up less than 1% of the timber cut in the state of Virginia.

Taxpayers heavily subsidize the National Forest timber sale program. That is, the logging is a money loser. The receipts do not cover the expenditures. And it operates in competition with private landholders. Nationwide, it has been estimated that the National Forest timber program loses over a BILLION dollars a year, and this estimate is conservative (Hanson, C. 2000). In other words, the profits are privatized (by the timber industry) and the costs are socialized (by US taxpayers).

The timber sale program is "below-cost" on the George Washington-Jefferson National Forests. No timber program in the GWNF can be justified economically. This is true in fact and in theory as the 1993 Plan was unable to create any alternative that resulted in any net profit to the timber sale program. It also notes that given “the relatively small volume of timber offered” that it could easily be “substituted with a comparable volume off other lands.” (Comments and Responses, Appendix 1, I-143, 145) Moreover, the amount of payments to counties in lieu of taxes (PILT) are not dependent on or variable with the existence of a timber program (ibid. I-140).

The commercial timber program is not compatible with any recreational or scenic uses of the forest. Because of it, the number and length of roads in the forest continues to increase, leading into more remote, isolated and sensitive areas of the forest. The ecological impacts from increased edge effects, increased runoff and sedimentation, decreased water storage capacity and groundwater recharge rates, destruction of the understory, ground cover and soil integrity, the heating and drying of the landscape, the removal of carbon-storage capacity and the increase and spread of non-native invasive species is well documented.

Action – The Conservation Alternative envisions a desired future condition where the forest moves towards a natural steady-state condition where ecological processes create a mix of habitat types that preserve the ecological integrity of the forest. Conservation Alternative maximizes net future value of the forest while significantly reducing costs by eliminating the management prescription “suitable for timber production.”

By removing the commercial incentive for logging, cutting activities, including salvage logging, would be limited only to those that are scientifically proven to be absolutely necessary for the viability of threatened and endangered species, to maintain existing administrative, camping, or picnic areas or for public safety.

18. **Early Successional Habitat**

Natural disturbances small and large are constantly happening throughout the Forest, forming a shifting mosaic of habitats (see Shugart, H. and D. West 1981, and Harris, L.D. *et al*. 1996). Natural disturbances include, but are not limited to, fire, ice storms, blow downs, age mortality, drought, slides, flood conditions, and insect predation.

With the sporadic nature of natural disturbances (see JNF FEIS 3-107, 109), early successional habitat is naturally random, patchy or spotty and species are adapted to this. Though episodic, natural canopy gaps are a regular occurrence here, their rates varying depending on the scale of natural disturbance events in a particular year and the forest type studied. On the GWNF canopy gaps are said to annually form from natural disturbances at the rate/extent of "0.4 to 2.0% of the land area" (GW-JNFs Indiana Bat EA-20). This means that in any ten-year

period (this is the increment used by the agency to define age classes and wildlife habitat), up to 4-20% of any project area may have natural early successional habitat conditions. These natural processes and conditions provide desirable and suitable habitat for grouse, deer, turkey, bear and other species.

Neither at the planning nor at the project level is the contribution of natural processes considered to maintaining wildlife habitat and early successional habitat. The FS planners and projects fail to properly consider, inventory, analyze and monitor natural early successional habitat patches, particularly those under two acres in size (the scale of many canopy gaps). Neither are road systems, grasslands, balds, shrublands, utility corridors, or lands that are regularly grazed or mowed considered. As a consequence, the GWNF managers constantly use a false "need" to fabricate such habitat as a rationale for timber harvest especially in mature and old-growth forests and on forest lands which are important for scenic, recreation or conservation values.

The even-aged structure that the GWNF managers desire replicates conditions which are in many ways an artifact of past abuses. The maturing and recovering GWNF naturally contains all developmental stages of forest growth due to regeneration at canopy gaps created by disease, fire, snow & ice, lightning, insect outbreaks (including gypsy moths), tree senescence, windthrow, beaver, drought, flooding, and other small-scale natural disturbances (Braun, E.L. 1950, Rentch, J.S. 2006). A disturbance regime of small-scale, within-stand gap processes dominate the natural forests in this region (Rentch, J. 2006, Runkle, J.R. 1985, Runkle, J.R. 1991a). A forest can be "intact" or "contiguous" yet have numerous canopy openings due to a variety of natural disturbances (see, *e.g.*, McCarthy, J. 2001). In fact, this is the natural state of wild old growth forests in this part of the country (Davis, M.B. 1996).

The 1993 GWNF FEIS noted that the absence of manual management for early successional habitat would identified supply game populations far in excess of viable populations; in the case of bears it was said to support the greatest numbers, for turkeys the second greatest. This is despite the fact that planning and projects fail to fully and fairly consider and analyze the early successional habitat on private lands in proximity to the GWNF and its contributions to sustaining wildlife populations. There is no justification for increasing habitat or populations of deer as populations have never been higher and in Virginia more people are injured in deer related accidents that of any non-domesticated species.

Action – The Conservation Alternative creates a desired future condition where natural processes create natural canopy and forest openings that create a mosaic of multi-storied and multi-aged forests with sufficient habitat for viable populations for all native and endemic species that require early successional habitat. With the possible exception of the necessity to protect populations of rare, threatened, or endangered species, and maintaining developed recreation

areas, managing for early successional habitat is considered an incompatible use of the forest.

19. Rare and Sensitive Species

The current GW forest plan does not give sufficient protection to rare and sensitive species. Neither is it sufficiently concerned with the protection of their unique habitats. Under the current forest plan, many special interest areas continue to allow timber management and salvage logging. The threat that this management prescription presents for the species in question is obvious and deleterious.

Since the current Plan was adopted in 1993, scientists with the Division of Natural Heritage of the Virginia Department of Conservation and Recreation (DCR) have identified additional areas with significant biological values, including 146 new stand-alone sites as well as extensions to existing special interest areas, and they recommend that 111 of these new sites be designated as special interest areas (L. Smith pers. com. 2007, and see Wilson 2000 and Smith 1991). In addition, many other undesignated threatened and endangered areas exist: some have yet to be officially discovered, and some have been identified by scientists or citizens but have yet to be officially recognized. Areas that are likely to have populations of sensitive species are normally not analyzed or inventoried, even at the project level despite internal requirements to do so. “When adequate population inventory information is unavailable, it must be collected when the site has a high potential for occupancy by a threatened, endangered, proposed, or sensitive species." See Std. 240 at GWNF LRMP 3 - 149. Furthermore, the GWNF includes a significant amount of acreage in West Virginia that has yet to be surveyed for special biological sites.

For example, at the project level, it is typically claimed that “[t]here is potential unoccupied habitat for the Indiana Bat (*Myotis sodalis*)within the project area . . .” (see, *e.g.*, 2005 GWNF JRRD AHTS BE). However, meaningful and scientifically valid measures are not taken so as to ascertain with any reasonable probability if the habitat at project sites is actually “occupied” by the bats. Areas that may are not monitored or inventoried at the project level. As a TES species, surveys for the Bats are required at project areas (see GWNF LRMP Std. 240), yet site-specific population inventory information is absent from the GWNF FEIS and Monitoring Reports. Adequate population inventory information is not available and not being obtained for most project sites. So not only is it uncertain whether the agency is complying with the allowable ESA Incidental Take, but meaningful compliance with the Plan is undocumented.

The Pine Snake (*Pituophis melanoleucus*) is one of the rarest reptiles in Virginia. Habitat of the types known to be used by Pine Snakes (upland pine and pine-oak forests) commonly occur on the Forest, and in addition such sites are commonly

the project areas for intensive activities such as timber sales. Yet inventories and monitoring are absent from project analysis in these areas.

Although the current Plan requires project-level surveys for sensitive species, these required surveys rarely happen. Impacts to the Yellow Lampmussel (*Lampsilis cariosa*), the Brook Floater (*Alasmidonta varicose*) and the Green Floater (*Lasmigona subviridis*) are not considered at the project level, although sites on the GWNF contain habitat for this mussel. "The green floater occupies very small to small streams, places where other mussels often are not found." According to Terwilliger, " it has declined dramatically in Virginia, probably as a result of habitat loss and water quality degradation." The Floater is "very rare" in Virginia (Terwilliger, p. 270). The species may be even more rare than described. For example, it is listed as an endangered species in neighboring North Carolina. The Green Floater is at risk here and in other locations throughout its range. Yet at various sites (*e.g.*, Shady Mountain, Hamilton Knob) surveys of streams for this species were not performed, nor were viability analyses.

"When adequate population inventory information is unavailable, it must be collected when the site has a high potential for occupancy by a threatened, endangered, proposed, or sensitive species." See GWNF Plan. This information, required for a well-informed well-reasoned decision and to comply with the Plan, has not been gathered here for this species.

Action - The Conservation Alternative projects a desired future condition where the habitats of rare, threatened, endangered, sensitive and locally rare species are inventoried, monitored, maintained and protected. It adheres to the directive to collect population inventory data on sensitive plant and animal species. This standard/guideline is revised to read "When adequate population inventory information is unavailable, it must be collected when the site has a high potential for occupancy by a threatened, endangered, proposed, sensitive, or locally rare species, or species of concern."

The Conservation Alternative contains explicit goals, objectives, guidelines, desired conditions, and standards that strictly protect these populations and their respective habitats. The management prescriptions for SBAs and RNAs would define them as unsuitable for road (re)construction, timber management, salvage logging or mineral/gas/energy development. Any roads of any level, including unauthorized roads, would be closed. A high or very high scenic integrity objective should be met or exceeded across all scenic classes for SBAs and RNAs. Trails would be targeted to be rerouted from such areas and in the short term, trails would be limited to pedestrian use.

Under the Conservation Alternative, all areas recommended by Virginia Division of Natural Heritage for Special Interest Areas, with the exception of those in designated wilderness, are designated as special biological research natural

areas. The Shenandoah Crest SBA is expanded north and south and down slope to include areas down to 2500 feet in elevation to incorporate newly found locations of Cow knob Salamanders. Roads and OHV routes that fragment Cow Knob Salamander populations and habitat (Flint, W.D. 2004) are decommissioned/removed/revegetated in the Shenandoah Crest SIA/SBA..

The following areas would be designated as special biological or research natural areas to protect its integrity and sustainability:

The Peters Mountain/Snake Run Ridge area on the James River Ranger District contains what is perhaps the largest tract of old growth in the central Appalachians.

The upper slopes of Little Mountain (Hoover Creek) on the James River and Warm Springs Ranger Districts contain a significant tract of old growth forest.

Areas south of US Rt. 250 at the Elliot Knob and Crawford Mountain Roadless Areas and all the way to Northeast Peak in Jerkemtight Roadless Area have also been identified as harboring populations of Cow Knob Salamanders (William Flint presentation at October 2007 Virginia Herpetological Society meeting; see also Graham, M.R. 2007) They have also been found on the Lee RD at the Hawk Campground area (recent) and Great North Mountain (historic) (see WVDNR 2005 at 5E – 10).These areas would be given SBA protection.

The area of Three Mile Mountain/Riles Run, SW of Columbia Furnace on the Lee Ranger District is is an area of exemplary biodiversity and has the presence of rare species. Around 70 years ago this site was identified on GWNF maps as a “natural arboretum” that included every tree species then known to occur on the Forest.

All populations of the Swamp Pink would be protected as currently, only “the majority of the Forest’s Swamp Pink habitat is in Wilderness or SBAs” (DCER-52). For example the “Swamp Pink populations that are currently in MA6 along the Coal Road would benefit from a change to SBA designation . . .” (*id*.). This area also contains populations of the Tiger Salamander (*Ambystoma tigrinum*). Therefore the entire Coal Road corridor should be designated an SBA or as an expansion of Maple Flats, Loves Run, and Big Levels SBAs which would serve to connect these areas.

The Conservation Alternative addresses the potential for plan or project implementation to result in significant impacts (direct, indirect, and/or cumulative) to the distribution and/or viability of the Green Floater, Brook Floater, and Yellow Lampmussel. It ensures that special aquatic surveys needed to detect these mussels and the James Spinymussel occur at all project areas within their range where there is suitable habitat. It also ensures that habitat for these mussels is strictly protected from loss and/or degradation.

The Conservation Alternative puts in place meaningful and scientifically valid measures to ascertain if potential habitat at project sites is actually “occupied” by the Indiana Bats. Surveys for the bats are implemented at project areas (see GWNF LRMP Std. 240) and Monitoring Reports are regularly and seasonably updated..

Under the Conservation Alternative Pine Snake habitats are strictly protected. Conservation Alternative explicitly addresses the potential for project implementation to result in significant impacts (direct, indirect, and/or cumulative) to the distribution and/or viability of the Pine Snake. It ensures that special surveys needed to detect the Pine Snake occur at all project areas within its range where there is suitable habitat.

The Conservation Alternative contains Objectives, Guidelines, Desired Conditions, and Standards for the restoration and strict protection of the Wood Turtle’s (*Glyptemys insculpta*) habitat and populations. . Wood Turtle habitat in Paddy Run and Coves Run are designated as Special Biological Areas and the existing roads in these areas are closed.

Wood Turtles use terrestrial habitats far from wetlands for extended durations and maintain associations with wetlands of different types over the course of a year (such as seeps and intermittent streams). In recognition that riparian areas and watercourses exist as a continuum (DCER – 30, Pringle, C.M. *et al*. 1988, and Gregory, S.V. *et al*. 1991), there is a need to protect the full range of ephemeral, intermittent, and perennial streams as well as seeps, springs, and other wetlands. The boundaries for designating special biological areas and/or protected buffer/riparian/stream-associated habitat zones would generally (depending on topography, habitat type, and land use) encompass those areas within 350 meters of both sides of the occupied waterway (*i.e*., encompassing core habitat). In this way much of the habitat mosaic critical to all of the Turtle’s life history needs is included and its ecological integrity sustained and buffered (see, *e.g*., Roe, J.H. and A. Georges 2007, Semlitsch, R. D., and J. R. Bodie 2003, and Burke, V.J. and J.W. Gibbons 1995).

At the planning level, under the Conservation Alternative, strict precautionary protection measures are created and implemented given the dearth of data pertaining to past and current demographics, mortality, and recruitment and the absence of population viability analyses.

20. Management Indicator Species

The selection and use of Management Indicator Species on the forest are currently inadequate to scientifically assess the effects and adverse impacts of management activities on the forest.

There are currently 23 MIS identified in the GWNF. The present MIS, except for some TES species, are all large mobile vertebrates. The use of these species does not accurately gauge the impacts to small site-sensitive species of limited mobility such as salamanders. Management plans must insure research on and (based on continuous monitoring and assessment in the field) evaluation of the effects of each management system to the end that it will not produce substantial and permanent impairment of the productivity of the land (NFMA). Expanding and diversifying the focal species and ecosystems receiving attention is necessary in order to accomplish the necessary multiple-scale conservation on the Forest (Poiani, K.A. *et al*. 2000).

MIS that can be used to assess the effects of ground disturbing activities are particularly absent from the list. The large, mobile, and/or generalist indicator species (*i.e.* Black Bears, White-tailed Deer, bats, Wild Turkeys, Pileated Woodpeckers, Ovenbirds, and Worm-eating Warblers) currently used by the FS are of limited, even misleading, use for gauging impacts of management activities.

There are currently no non-native invasive species included in the list of management indicator species. The presence of these organisms is perhaps the most directly related to management activities of the forest than those currently listed. The spread of invasive species such as Asian Stiltgrass, Garlic Mustard, Multi-flora Rose, Autumn Olive and Ailanthus is occurring throughout the Forest. Their range and population has expanded corresponding with management and canopy and ground disturbing activities. These plants may reduce the abundance, species richness, and/or diversity of native flora, fauna, and fungi. These impacts in turn can have cascading negative effects upon native species of biota.

Non-native invasive plant species tend to invade and establish themselves in areas where disturbance has occurred, such as vegetation removal, canopy opening, or soil exposure. NNIS often occur along roads and trails where there is concentrated soil disturbance, and in other areas with bare or disturbed soil, including trailheads, parking lots, developed and dispersed recreational sites, popular fishing locations, and other heavily used areas. Once they are established in an area, they can continue to spread along areas of continued disturbance, such as roads, trails (both official and illegal user-created trails), and streams. The direct, indirect, and cumulative impacts upon native flora and fauna from these invasives are significant, yet they are not considered a group of species worthy of MIS status.

Small creatures such as salamanders, skinks, and invertebrates with limited mobility (and avoidance ability) can be very sensitive to on-site disturbances such as roads and timber operations (see, *e.g*., Herbeck, L.A. and D.R. Larsen 1999, Marsh, D.M. and N.G. Beckman 2004, Semlitsch, R.D. *et al*. 2007, Graham, M.R. 2007, and Flint, W. 2004). Salamanders are significant

components of forest ecosystems (Burton, T.M. and G.E. Likens 1975; Hairston, N.G. 1987). They perform many ecological functions (Davic, R.D. and H.H.Welsh 2004) and are considered “keystone species” (Davic, R.D. 2003). Numerous salamander species occur on the GWNF (Mitchell, J.C. and K.K. Reay 1999; Petranka, J.W. 1998). Their size, physiologies, and habits greatly restrict their ability to avoid direct disturbance from logging equipment, motor vehicles, prescribed fires, or falling trees. They are vulnerable to further harm indirectly from alteration of habitat conditions by logging, burning, and road building operations. And the life history requirements and characteristics of such species greatly restrict their abilities to "recolonize" areas (see, *e.g*., Cushman, S.A. 2006).

Current MIS fail to analyze microsite understory conditions with which may not be precisely indicated by overstory forest typing (Ford, W.M. *et al*. 2002). Analyzing and monitoring salamander populations at proposed burning and logging sites and a more thorough analysis of the burning and logging programs and their effects is only possible when there is an appropriate MIS for such analysis. The inclusion of Cow Knob Salamander and Tiger Salamander as MIS, two rare with very limited range, is of questionable utility as indicator of overall forest management. The absence of representative distributions of salamanders as MIS does not allow for the accurate monitoring and assessment of management impacts to salamander populations.

Management activities may also incur direct and indirect impacts to pollinators (Cane, J.H. 2001) and spore/seed dispersers such as ants (Ness, J.H. and D.F. Morin 2008, Whigham, D.F. 2004, and Matlack, G.R. 1994a) and turtles (Jones, S.C. *et al*. 2007).

Fungi, herbaceous flora, and invertebrates, such as snails, slugs, millipedes, worms, and arthropods, that live in the forest floor litter or topsoil or are associated with the presence of large woody debris are a significant component of forest diversity (McMinn, J.W. and D.A. Crossley, Jr. 1996). These organisms are also important food for species such as Wood Turtles. Yet these species are significantly absent from the list of MIS.

Arthropods, although significant indicators of forest health, are absent from the list of MIS. Logging can influence the abundance and species composition of arthropods (Shure, D.J. and D.L. Phillips 1991; and Greenberg, C.H. and T.G. Forrest 2003). Slug densities and land snails are positively correlated with the presence of coarse woody debris (Kappes, H. 2006, and Caldwell, R. 1996). “It thus may be expected that slugs, especially the stenoecious forest species, are highly sensitive to climatic fluctuations originating from canopy gaps or from disturbance of the leaf litter layer.” (Kappes, H. 2006)

These concerns for site-sensitive biota are not confined to fauna, but extend to flora as well. MIS should not be limited to species that live in the overstory for

analysis of the effects of overstory removal. Overstory removal can also have very long-term affects on the reestablishment of forest herbs (which in turn serve as food for various species) (Duffy, D.C. and A.J. Meier 1992, Meier, A.J. *et al*. 1995, Vellend, M. 2004, Kahmen, A. and E.S. Jules 2005, and Vellend, M. *et al*. 2006), which can be further complicated by the appearance of invasive species. They can be harmed directly by logging that alters site conditions and indirectly by edge effects that allow invasion by exotics and other harms (*e.g*., alteration of microclimate and microhabitat conditions). Recovery from these harms can take many decades (see, *e.g*., Duffy, D.C. and A.J. Meier 1992, Matlack, G.R. 1994a, Meier, A.J. *et al*. 1995, Vellend, M. 2004, Vellend, M. *et al*. 2006, Bratton, S.P. and A.J. Meier 1998, and Primack, R.B. and S.L. Miao 1992).Overstory age is a strong determinant of understory floral composition (Whitney, G.G. and D.R. Foster 1988).

There are no current MIS which truly and accurately measure the effects of management on aquatic species. The surrogate species used to monitor the Forest (such as Trout or Sunfish) do not exist in many of the streams affected by management activities on the Forest. In addition, some of the species assessed by the FS, such as aquatic macro-invertebrates, apparently are not effective at indicating or detecting degradations. And species for indicating the health of intermittent and ephemeral stream habitats and populations are lacking. As a consequence, there are no MIS in such project areas with which to survey, inventory, and monitor so as to estimate, gauge, analyze, and assess the affects of present or future projects and existing or proposed roads upon aquatic populations and communities.

Even if trout or sunfish are not present, streams and waterways in project areas have aquatic populations and communities living in them. These species, populations, and communities are dependant upon the aquatic habitat in these streams. And there may be populations of Locally Rare species in these streams. Various beneficial uses that we gain from project area streams are dependent upon the existence of these aquatic species, populations, communities, and diversity. Further, there are no indicator species that are monitored in intermittent and ephemeral streams, many of which exist in project areas.

Use of “demand and harvested” (hunted wildlife) species as MIS is also problematic. It is illogical and misguided to base habitat manipulation policy and the effects of those manipulations upon populations that are being directly manipulated through other actions (*i.e*., hunting mortality) that have nothing to do with habitat manipulations themselves. Such data cannot be dependable in the presence of this undeterminable variable.

Action – The Conservation Alternative promotes a desired future condition in which naturally occurring conditions of the forest are protected, nurtured and restored. Having accurate and scientifically legitimate management indicator species is essential for determining baseline conditions and for projecting and

monitoring the effects of management activities on the forest.

The Conservation Alternative would significantly expand the list of management indicator species to include those whose presence, range and populations may fluctuate with soil disturbing and canopy removal projects. These would include Non-native invasive species (such as Asian Stiltgrass, Garlic Mustard, Multi-flora Rose, Autumn Olive and Ailanthus Altissima, see list on pg.), representative salamander (in addition to Tiger and Cow Knob salamanders), arthropod, and invertibrate species, reptiles and locally rare species, small predator species (such as raccoons) and representative plant and aquatic species (besides Wild Trout and Sunfish).

Under the Conservation Alternative, scientifically based standards, guidelines and protocols are initiated and implemented for monitoring and avoiding harmful effects to site-sensitive species. In order to protect the Forest's diversity, sustained yield, and population viability/distribution, the effects of prescribed burns, logging, roads, and other management actions on sensitive habitat, including intermittent and ephemeral streams, these effects must be explicitly and fully addressed by the GWNF planners in the EIS and Plan revision.

21. Wildlife Management

There is a high density of White-tailed Deer (*Odocoileus virginianus*) on the GWNF. Deer are a well-known indicator species for early successional habitat and forest fragmentation. The Forest Service's timber sales and other habitat manipulations maintain and facilitate inflated populations of this common species. The habitat manipulations and the associated numbers of common Deer are detrimental to other Forest species and conditions. These harms to forest health occur regardless of the motives or purposes of the alterations

The logging and other "vegetative manipulation" done on the forest inflate White-tailed Deer populations by fabricating more browse. There is already a very high density of Deer on the Forest, recently estimated at 31/square mile (DCER - 45). In Virginia, the White-tailed Deer population has increased 400% (Donaldson, B.M. 2005). Deer are the most dangerous wild animal to human safety in the country (*id*.). High Deer populations harm flora and fauna, including rare species (*e.g*., sensitive plants and ground-nesting birds) (see JNF FEIS 3 – 137, references). High Deer densities also reduce tree seedlings and are a prime contributor to declining oak populations (Rooney, T.P. *et al*. 2004). When the vegetation management or timber management are justified as "management" for Bear or Turkey or Grouse or Golden-winged Warbler, the effects on deer populations are not regularly considered.

Action – In order to create the desired future condition of the forest under the Conservation Alternative, white tailed dear populations are managed through the increased interior and unfragmented forest habitat. The GWNF will work

proactively with the VDGIF to ensure smaller, healthier Deer herds by encouraging the evolution of forest stands into old growth and the restoration of interior forest habitat conditions wherever possible through the designation of special areas such as Wilderness Study Areas, core conservation areas, National Recreation Areas, special biological and special management areas, and roadless and unroaded areas.

The Conservation Alternative most closely approximates Alternative #3 as analyzed in the 1993 GWNF FEIS. This alternative was clearly estimated to supply viable and sufficient game populations. In the case of bears it was said to support the greatest numbers, for turkeys the second greatest, for deer, the lowest of any alternative. This positive analysis confirms the effectiveness of the Conservation Alternative in creating the desired future condition of the forest.

22. Forest Diversity

The GWNF recognizes that “Eastern Riverfront Hardwood communities (Bottomland Hardwoods) are not common” on the Forest (*id*.). These rare ecosystems continue to be repressed by management that emphasizes mowing, haying and grazing in areas that would support eastern riverfront hardwood communities.

Trees of the species found here, such as White, Chestnut, and Northern Red Oaks, Black Gum, hickories, and maples are known to commonly attain high ages, when allowed. These are important components of forest diversity. At present on the GWNF there is an extreme disbalance in the distribution of age-class forest acres. There are generally very little or zero acres represented in the 131-140, 141-150, 151-160, 161-170, 171-180, 181-190, 191-200, 201-210, 211-220, 221-230, 231-240, 241-250, 251-260, 261-270, 271-280, 281-290, 291-300, 301-310, 311-320, 321-330, 331-340, 341-350 years-old age classes at project areas. Mature or old growth acreage of these types is extremely scarce. For example, there are only 2239 acres (0.2% of the Forest) of “white pine-hemlock”, “Forest Type 4”, on the entire GWNF (FEIS H-3).

It is not reasonable to ignore all these age classes and lump them together (such as 140+ or 150+ in numerous scoping letters and EAs) when discussing and analyzing “distributed” or "balanced age class", and forest diversity objectives.

The current GWNF Plan does not sufficiently protect the Forest’s diversity as it allows special forest conditions to be harmed. These sensitive sites include springs, seeps, rocky outcrops and slopes, scree, talus, steep slopes, places with poor growing conditions (low “site indexes”), and unusual or rare forest types. Unfortunately, the current Plan allows these sites to be harmed during management activities such as logging.

The GWNF uses oaks to rationalize intensive management activities such as timber sales. The agency claims that if there are fewer numbers of oaks on the GWNF then it is unhealthy. The GW also claims that oaks need intensive even-age logging to maintain themselves on the forest. The agency seems unwilling to reasonably address reason, science, and empirical evidence. The assumption that oaks will disappear without timber sales and that wildlife will disappear without unnaturally high numbers of oaks is clearly unjustified, unsupported and incorrect.

Action – The Conservation Alternative promotes a desired future condition of the forest where natural processes dominate and rare and uncommon habitat are restored through the elimination of management practices that impede their ecological emergence. Practices that perpetuate unnatural populations of forest species, types and age classes are abandoned. The Conservation implements restoration of these eastern riverfront hardwood communities by eliminating the incompatible uses of the forest by livestock grazing, mowing (the exception being Hidden Valley and other developed recreation sites), or haying.

The Conservation Alternative ceases the use of constrained and constricted age classes and lumping of such. It requires the explicit use of older age classes, including those enumerated above, in analyses, monitoring, inventory, and decision-making, particularly as regards issues of diversity and “balance”.

Under the Conservation Alternative special and vulnerable places including springs, seeps, rocky outcrops and slopes, scree, talus, steep slopes, places with poor growing conditions (low “site indexes”), and unusual or rare forest types are strictly protected under the new revised GWNF Plan. It creates explicit standards, guidelines, and objectives to accomplish this. These specialized habitats are not considered “suitable” for logging, timber production/harvest, road construction, drilling, mining, or other harmful disturbance. The protective no-disturbance buffer around springs, seeps, rock outcrops, and rocky slopes is at least a tree-height in extent so as to protect their integrity (*e.g*., protect them from increased temperatures). A VDGIF biologist recommended that springs and seeps be protected "by a minimum of 100 feet on each side (preferably 200-300 feet)" (GWNF JRRD Johnson Mountain timber sale project file). Steep slopes (40% or over) will not be suitable for logging or other intense ground disturbance. Places with site indexes below 70 will not be suitable for logging or other intense ground disturbance. Because of their significance to maintaining NFMA mandated Forest diversity, rare forest types are not suitable for logging or other intense ground disturbance.

The Conservation Alternative calls for the Forest Service to fully and fairly consider scientific knowledge and empirical evidence regarding regeneration of oaks, to monitor oak reproduction in natural canopy gaps, and to fully inventory the numbers of such gaps and the amounts of oaks present (see, *e.g*., Clinton, B.D. 2003, Lynch, J. and J. Clark 2002, Beckage, B. *et al*. 2000, Miller, G. and J.

Kochenderfer 1998, and Johnson, P. 1993). Maintaining artificially inflated numbers of oaks is not a “desired condition” in the Conservation Alternative.

Because of their significance to maintaining NFMA mandated forest diversity, under the Conservation Alternative rare forest types are not suitable for logging or other intense ground disturbance.

23. **Ecological Restoration**

Ecological Restoration is vital to meeting the National Forest Management Act and MUSYA requirements to conserve and sustain soils, watersheds, wildlife, ecosystems, and biodiversity. The Current GW Plan lacks any significant ecological restoration goals and objectives. When the FS does mention restoration, it often refers to maintaining or fabricating cultural landscapes that are dependent on anthropogenic inputs for their structure, composition, and/or function. This is not ecological restoration in the valid sense of the concept. See DellaSala, D.A. *et al*. 2003. Forest restoration begins with comprehensive transportation planning that identifies and funds upgrading, maintenance, or decommissioning forest roads.” Jim Burchfield and Martin Nie. September 2008. “National Forests Policy Assessment: Report to Senator John Tester”. College of Forestry and Conservation, The University of Montana, Missoula, MT). Ecological Restoration is more than saving the pieces; it protects the integrity of the natural processes that maintain and successionally alter the existing forest which, to a significant extent, is the result of artificial and poorly managed landscapes.

It is not apparent that the GWNF planners are performing the comprehensive roads analysis and transportation planning necessary to meaningfully analyze, create targets, goals or objectives and to prioritize necessary restoration actions regarding unnecessary, unauthorized and ecologically damaging roads.

Projects under the current plan take a “heavy handed” approach to restoration. One of the fundamental guiding principles of ecological restoration is to have as little impact as possible. Ecological restoration allows natural processes to restore as much as possible. Ecological restoration is a close-to-nature approach, a level of intervention to the point where forest self-renewal processes operate. For example: “Where old-growth riparian forests are not currently available, mature riparian forests offer a source for future old-growth structure, provided forest management practices are employed that either maintain or enhance, rather than retard, stand development potential (Keeton 2004).” (Keeton, W. *et al*. 2005)

The current plan does not recognize the need to rehabilitate past damage from ill-conceived and poorly implemented projects. Instead, harmful activities

continue to be allowed under the guise of restoration (such as intensive logging in the riparian areas of North River).

Many streams on the GWNF are deficient as regards loadings of large woody debris. Leaf litter and woody debris such as branches and boles falling into streams is ecologically important for in-stream health, habitat niches, and productivity. Large woody debris ("LWD") creates pools, provides critical cover, and serves as a basis for food webs. Invertebrate groups generally known as shredders and collectors feed on and break down this organic matter. Species such as Wood Turtles and Brook Trout can greatly benefit from the cover and pools provided by LWD and the prey that is associated with this material (Wallace, J.B. *et al*. 1996). The structural integrity provided by woody debris helps stabilize the stream environment by absorbing the energy of flowing water and reducing the severity of erosion (Austin, S. undated).

Around 37% of 223 miles of streams surveyed 2001-2004 on the GWNF did not meet LWD desired conditions (Table 18 at G-24 in M & E Report 2005). Fifty percent of the 392 miles of streams surveyed in our George Washington National Forests from 1995 to 2005 did not meet desired levels of large woody debris necessary for healthy stream systems (GWNF DCER 2007 at pg. 26). In the most recent year of stream surveys, taken solely in the North River RD, 78% of all streams were deficient in large woody debris. As regards this impoverishment, the past is prologue.

Large woody debris plays an important role in structuring stream habitats (Welsh, H.M. *et al*. 1998). For example, at Wood Turtle stream sites in VA and WV many pools are either directly formed or significantly influenced by LWD (Krichbaum, S. pers. obs.). The pools formed by debris dams are small-scale nutrient catchment basins that strongly influence community structure (Pringle, C.M. *et al*. 1988) (*e.g*., the provision of potential Wood Turtle prey organisms).

Past cutting on the GWNF removed many of the trees that would have served as sources of LWD (Doloff, C.A. 1996). The LWD that potentially falls into small streams generally found on the Forest comes from the trees that are growing there on site around the streams; it is not transported to a site from miles away as happens on larger rivers. Protection of the riparian forest around streams is critical for this reason. However, the direct zone of influence as regards trees falling into or shading streams may include much more than just what is technically identified as the "riparian area". Unfortunately, portions of "riparian areas" as well as streamside zones of influence continue to be logged on the GWNF (see FEIS 3 – 149).

Studies have found that streams flowing through older forests receive the greatest variety of food for detritus-processing organisms (Austin, S.). Streams draining late-succesional and old-growth riparian forests display a gradual, but significant increase in LWD loadings (Hedman, C.W. *et al.* 1996; Keeton, W.S. *et*

al. 2007). Trout were found to always use segments that had the most LWD. “In the absence of high fishing pressure, streams with large amounts of LWD appear to support higher trout density and biomass than streams with little or no LWD." (Flebbe, P. and C.A. Dolloff 1995)

LWD is also important in terrestrial ecosystems (McMinn, J.W. and D.A. Crossley 1996). Because of the past and ongoing intensive logging and other human-caused disturbance that has taken place, there is actually an impoverishment of dead wood (“large woody debris” or what are sometimes referred to as “fuels”) on the great majority of forest sites in the GWNF and elsewhere in the East (Dolloff, C.A. 1996, and DCER).

The current plan also authorizes grazing in floodplains and watersheds which is incompatible with restoration goals and objectives for watershed protection.

Action - Ecological restoration stays close to nature and uses the lightest level of intervention possible to bring the ecosystem to the point where forest self-renewal and successional processes can naturally occur. Large-scale reestablishment of unmanipulated forest conditions is perhaps the greatest single improvement that we can implement to support biodiversity and ecological integrity. (See Noss, R. 1990b; Noss, R. 1991; and Noss, R. 1995.) The desired future condition under the Conservation Alternative includes the passive ecological restoration of large blocks of forest where large-scale reestablishment of unmanipulated forest conditions predominate in order to maximize opportunities for ecological resiliency, the ability for ecosystems to survive and maintain their integrity in the presence of small or large scale change.

Ecosystem Resiliency Analysis would include identification and mapping of patches and corridors of mature and old-growth forest (contiguous forest containing “core” conditions of mature and/or old-growth forest supplying expansive elevational gradients and anthropogenically unbroken/unfragmented physical links between relatively large patches containing “core” conditions of mature and/or old-growth forest). These cores/corridors are considered not suitable for logging, road building, drilling, mining, wind turbines, or development. They are priority areas for watershed restoration.

Under the Conservation Alternative, priorities for road closings for restoration would include roads that are in drinking water watersheds and riparian areas, Virginia Department of Natural Resources/Natural Heritage Biological Sites, existing Roadless or Potential Wilderness Areas as well as roads that create boundaries for Roadless or Potential Wilderness areas, areas which would qualify for Roadless or Potential Wilderness designation if those specific roads were closed either by reducing road density or increasing the boundary areas, watersheds containing populations of native brook trout, roads which cross permanent (culverted) or ephemeral streams, areas with lower road densities and remote interior areas.

In the Conservation Alternative, the use and maintenance of down large woody debris in streams riparian areas is implemented forest-wide and riparian buffer areas are expanded to 100ft. In order to lessen the effects of acid rain and deposition on the forest and brook trout and aquatic species, surface disturbances, the removal of trees, vegetation, boles and down woody debris are strictly restricted.

The desired future condition of the forest under the Conservation Alternative returns the grandeur of the American Chestnut to the forest. Prior to introduction of the chestnut blight, Chestnut was a dominant canopy species throughout many of the lands of the GWNF (see Braun, L. 1950). It had a tolerance for a wide range of site conditions and its growth and reproduction characteristics gave it a competitive edge over many species. Its widespread occurrence also confirms the lack of a significant natural fire regime here. (see Q. Bass material previously submitted to the GW-JNFs' managers during the revision of the JNF Plan) Through the cooperative efforts of The American Chestnut Foundation a blight-resistant hybrid suitable for planting is currently available.

There are many miles of currently open, closed, and temporary roads, "wildlife openings", and recent even-age logging sites on the Forest that could and should be used as planting sites to reintroduce American Chestnut. Various roads can be decommissioned, recontoured and revegetated with Chestnut. Similarly, the vegetation at various game openings and recent logged-over sites needs to be manipulated so as to reintroduce Chestnut at these sites. By using existent roadbeds for Chestnut restoration, several restoration goals (providing for remote habitat and recreation, interior forest, helping to impede the influx of invasive species, decrease road densities and road maintenance expenditures, improve watershed quality) can be accomplished in one action. New logging is not needed to restore the Chestnut to the GWNF.

Because grazing and "utilizing cattle may conflict with trying to have intact riparian corridors and high water quality (DCER – 138), the Conservation Alternative eliminates grazing in moving to achieve its desired future condition. The Conservation Alternative restores riparian areas by relocating camping areas, trails and roads away from streams in areas such as North River and Paddy Run and by reforesing riparian pastures at Jackson and Shenandoah Rivers.

The Conservation Alternative includes actions targeted to halt the loss of hemlocks to the whooly adelgid. It implements strategies to eradicate and prevent introduction of invasive species by eliminating most ground disturbing activities, roadbuilding and reconstruction and canopy removal projects.

The Conservation Alternative directs the promotion of increased beaver populations to protect and enhance water quality and aquifer recharge. It also

strives to maintain significant suitable habitat requirements that would allow for the possible return or reintroduction of extirpated species such as cougar and elk.

24. Energy: Biomass

Biomass refers to living and recently dead biological material that can be either converted into fuel or used as fuel directly for industrial electricity production. Converting standing forests into fuel is potentially devastating to the forests of Virginia and should be set aside in favor of more positive solutions to energy problems. Given that all energy problems can be solved through conservation and increased efficiency, using the forest of the GW to increase energy supply would create incentives to use more energy and exacerbate and work contrary to efforts for conservation and increased efficiency.

Energy generation through incineration is a viable energy alternative for the Commonwealth although it is not renewable by any definition of the word. Woody biomass is the least efficient method of energy generation as it necessitates more burning of any other fuel per kw energy generated and creates more air, water and landfill pollution per kw of energy generated.

While the demand for wood products from the George Washington National Forest is relatively small, allowing biomass production on the GWNF would put increased demands the forests to provide a supply of sourcing material for biomass incineration. These demands would happen at the expense and to the detriment of recreation, wildlife, soils, water quality and primitive recreation. Many incinerator companies require guarantees on the amount of biomass a community must send to an incinerator for that reason. Once the biomass incineration route is taken, communities are trapped burning up their valuable natural resources.

Actions - The desired future condition as set forth in the Conservation Alternative is one where privatization of resources is an incompatible use of the forest. Sourcing for woody biomass on the GWNF is incompatible with all other uses of the forest and reduces the net future value of the forest. Therefore, biomass production and sourcing for biomass, under the Conservation Alternative, is prohibited and determined as so in the Forest Plan.

The desired future condition under the Conservation Alternative is one where the forest provides amenities and resources not available on private and industrial lands. The Commonwealth has no shortage of regions, industries, businesses and landowners eager to participate in government subsidized biomass projects. Because the Conservation Alternative embodies a desired future condition where federal lands and agencies do not compete with private lands in providing goods and services, it is considered an incompatible use of the forest and is prohibited by the Forest Plan.

25. Wind Energy

Our native flora and fauna are threatened not only by climate change, but also by the accelerating degradation and destruction of their habitat. The science is clear on this point. Wildlife will have the best chance to adjust to a changing climate if we protect the habitat that they have left, and limit and eliminate non-climate environmental stresses such as habitat fragmentation, over-harvesting of timber, invasive species, disruptive human activities and pollution. Thus, it is imperative that global climate change be addressed in ways that do not further eliminate, reduce or degrade wildlife habitat.

The current forest plan includes consideration for potential wind energy development on the GWNF. This assumes that under some conditions, wind energy could be seen as a possible use of the forest.

The development of industrial wind facilities, which generally requires 2-5 acres of cleared land for each industrial sized wind turbine, transmission-line corridors, and corresponding access roads will result in the loss, degradation, and fragmentation of forest habitat; erosion and sedimentation of streams; potential continuing, long-term wildlife fatalities and injuries, and noise and light pollution of surrounding areas.

The lack of reliable information regarding the impact of industrial wind development on migratory bird and bat populations along the ridge-tops of the Alleghany Highlands is reason enough for serious concern and should give plenty of reason for caution and careful study.

The GWNF is habitat for many globally unique, rare, threatened or endangered plant and animal species and communities, for which our public lands are becoming the last refuge from human development. Development projects on ridge-top forests can prevent wildlife from moving to higher elevations in response to global warming. In addition, the fragmentation of habitat can speed up the rates of warming in our forests making it difficult for many species to adapt to warmer temperatures, and hinder the ability of wildlife to migrate to other latitudes or longitudes in response to a changing climate. In this scenario extinction may be the inevitable result for many of our native flora and fauna.

Action – The desired future of the forest under the Conservation Alternative includes the maintenance and restoration of large habitat blocks on the forest, and the restoration of the forest to its natural steady-state condition where ecological processes create a mix of habitat types which preserve the ecological integrity and connectivity. Because of the negative effects of wind energy production on the forest, it is considered an incompatible use of the forest.

26. Oil and Gas Energy Leases

The oil and gas leasing decisions made in the 1993 plan fail to protect public benefits and ecological values in the GWNF. Private lands in Virginia and West Virginia provide ample opportunities for oil and gas leasing and extraction activities. On the other hand, only public lands can guarantee the provision of wild forests, pristine waters, at-risk species habitat, and opportunities for quiet, backcountry recreation. Surface occupancy for oil and gas leasing and extraction activities would degrade these and other public benefits.

Many inventoried roadless areas, uninventoried roadless areas or Mountain Treasure areas are open for development with little to no protection. Several of these areas contain karst terrain, steep slopes, special biological areas, and rare species locations and habitat. Surface and subsurface mining and drilling activities are is not compatible with protection of those resources. Areas containing karst features need additional protections because of the lack of natural filtration of ground water. Once an area is committed to oil and gas leasing with surface occupancy and is leased, options for future protection are likely foreclosed and the Forest Service's ability to protect other resources in those areas is severely limited.

Not only did the 1993 Plan FEIS not adequately consider the impacts of oil and gas leasing, but, moreover, circumstances have changed and new information has arisen since then, necessitating further analysis. The 1993 EIS pre-dated the Fish and Wildlife Service's Biological Opinion on the Indiana Bat, the forest-wide Fish and Mussel Conservation Plan, the Cow Knob Salamander Conservation Agreement, and the listing of new species under the ESA. Habitat for these listed species are located within many of these CSU areas and by law require the highest protection. Leasing decisions must be reevaluated in light of those developments.

The 1993 EIS only addressed approximately 2,000 acres in the western-most portion of the Laurel Fork Roadless Area in any level of detail. GWNF has not updated its reasonably foreseeable oil and gas development scenario to reflect new information from the USGS and others concerning potential development in Marcellus Shale formations in the Appalachian Basin. Most of the GWMT Allegheny Mountain Cluster containing 41,718 acres (not including the Laurel Fork area), as well as portions of the Northern Shenandoah Mountain Cluster containing over 58,000 acres, are located in or near areas believed by the 1993 Plan EIS to have moderate to high potential for natural gas development. These leases would likely entail hydro fracturing or hydrofracking that causes huge ground and surface water pollution through the release of deep toxic minerals and other chemicals used in the hydrofracking process.

The gas in the Marcellus Shale is held like bubbles in a brick of Swiss cheese. To extract it, a mixture of water, sand and chemicals is shot into the earth with such force it fractures the rock, releasing the bubbles to the surface. When the gas

surfaces, so does the water that is laden with natural toxins from the shale, including many suspected cancer-causing compounds. These effects have not yet been analyzed at the planning/EIS level.

There was no site-specific analysis of any lands other than Laurel Fork in the 1993 EIS. To illustrate the deficiency, the Jefferson National Forest (JNF) 2004 FEIS contained 51 pages of analysis on the direct, indirect, and cumulative impacts of federal oil and gas leasing within the NF, while the 1993 EIS only contained ten pages and the 2007 CER contains six. The GW's decisions will be unchanged for the next 10-15 years and informed public comments are essential to ensure those decisions are made correctly.

The 1993 EIS failed to have any sediment model or analysis with regard to surface occupancy. By comparison the JNF FEIS modeled increases five decades into the future. The EIS also did not discuss the effects on geologic resources, karst formations and caves. Concerning air quality, the primary air pollutants from natural gas wells are nitrogen oxides (from construction phase) and Volatile Organic Compounds (from production phase). There were no calculations of emissions or analysis of the reasonably foreseeable development scenario. The EIS listed the impacts as insignificant without explanation.

Action - The desired future condition of the forest under the Conservation Alternative is one that in the long term considers mineral, gas and oil extraction, including hydrofracking, an incompatible use of the forest. The Conservation Alternative examines the possibilities inherent in withdrawing consent for leases across the Forest wherever possible along with other varying amounts of withdrawal. Under the Conservation Alternative no new leases would be offered and those that are considered nonnegotiable which do allow surface occupancy, would be renegotiated with the intention of limiting them to no surface occupancy.

27. Air Quality

There are various mandates that the GWNF has with respect to air quality. Forest management activities in the GWNF are subject to the General Conformity regulations of the Clean Air Act. Activities must not impede a state's progress toward attainment of National Ambient Air Quality Standards. The adjacent Shenandoah National Park, whose air can be impacted by management activities on the GWNF, is a Class 1 Air area. Areas in the James River and Lee Ranger Districts are within or adjacent to ozone and fine particulate "non-attainment areas" (see map in USDA FS 2007 GWNF Draft Comprehensive Evaluation Report at pg. 106). However, the agency apparently moves ahead with burn projects on the Forest without making any significant analysis regarding compliance with these regulations and conformity determinations (see, *e.g.*, the project file and DM for the 2007 Lee RD burn project). Such decisions are not compliant with federal law, regulation, policy, guidelines, and/or standards.

One of the ecosystem services that forests can provide is the improvement of air quality by filtering out particulates and toxic compounds from the air. According to the Environmental Protection Agency's website on "Vegetation and Air Quality","Common pollutants that trees and vegetation can remove include nitrogen oxides, sulfur oxides, particulate matter, and ground-level ozone.**"** Research shows that large trees remove considerably more pollution than smaller ones: a healthy tree with a trunk-diameter of 30 inches removes about 70 times more pollution than a tree with a three-inch trunk." Therefore, the GW can increase forest capacity to improve air quality by letting trees get big and old and by leaving them standing.

For net public benefits to be maximized on the forest, the air purification benefits from net forest growth on the GW (additional growth of standing trees over ten years minus what is logged, destroyed by natural disturbance, or turned into roads, trails and energy sites) have to outweigh additional air pollution effects on human health and effects on wildlife from prescribed burning, ORVs, ATVs and single occupancy vehicles in the neighboring communities. Particulate matter in the air can have serious health impacts, which lead to increased health costs and to economic consequences, such as lost workdays. It is clear that the 92 Plan does not maximize net public benefit with regard to air purification services and would limit the provision of this service over decades to come.

Action – The Conservation Alternative projects a desired future condition where air quality standards result in the highest net public benefits. The Conservation Alternative has standards and guidelines that ensure values that meet or exceed compliance guidelines with all air quality regulations. It maximizes air quality by significantly restricting controlled burn projects and by ensuring that conformity determinations are part of all project level analysis.

28. Scientific Research, Data and Monitoring

The 1993 GWNF Forest Plan pays very little attention to monitoring of projects on the forest. What little monitoring that does exist is insufficient to determine if objectives have been met and if issues and adverse consequences raised in the scoping process by the public are being realized.

Scientific Research and the resulting data generation is an important function of the USFS. Yet so little essential information is available that analysis is often limited. In the absence of on site documentation of the results of past projects on the forest in meeting objectives (including maximizing net public benefits), information is often limited to relevant research in peer reviewed scientific journals. This information is routinely ignored and dismissed in scoping comments.

Action – The Conservation Alternative envisions a desired future condition of the forest where increased knowledge of forest processes and ecosystems and research and monitoring have a high priority. Detailed ecological monitoring of all projects would be implemented on objectives and on site specific and cumulative impacts on issues raised during the scooping process.

All of the previous monitoring recommendations included in the Conservation Alternative would be implemented. The planning process would include an assessment of the change in net public benefits since implementation of the 1993 Forest Plan.

29. Wild & Scenic Rivers

There are waterways on the Forest that qualify for designation as Wild, Scenic or Recreational Rivers, but they have not been formally recommended as such to Congress. Some waterways have outstandingly remarkable values that have not been recognized by the Forest Service. Additional stream mileage may qualify for designation.

For the 1993 Plan the Forest Service evaluated eligible waterway segments for possible recommendation as federally protected Wild, Scenic, or Recreational Rivers. Although many of these are superlative and should be designated, the FS has made no recommendations to Congress to gain this protective status for the fourteen waterways found to be suitable for designation.

Action – The Conservation Alternative projects a desired future condition where all waters which qualify for protection as wild and scenic rivers are recommended for this designation. The Conservation Alternative would evaluate and recommend as inclusions to the Wild and Scenic River system all waters that the Commonwealth of Virginia have officially designated as Exceptional State Waters (see http://www.deq.virginia.gov/wqs/exceptional.html): Brown Mountain Creek, Laurel Fork, Ramsey's Draft, Pedlar River, and North Fork Buffalo River.

Additional waterways, all of which have sections on the GWNF, would be evaluated for inclusion as Wild, Scenic, or Recreational Rivers, including Trout Run, Waites Run, German River, Wilson Creek, Mill Creek (of Maury River), Mill Creek (of Cowpasture River), Potts Creek, Stony Creek (north of Bayse impoundment), Benson Run, Big Marys Creek, Stuart Run (with Buck Lick and Bolshers Runs), Jim Dave Run, Little Back Creek, Crow Run (with Little Crow Run Passage Creek Seg. B, Cowpasture River Seg. C, the upper part of Cedar Creek, and St. Marys River Seg. B.

30. Scenic and Visual Quality

There are many areas that receive high amounts of regular use for which the GWNF pleasing scenery. The appearance of the forest is a significant national

and regional issue and very important to the public. Yet, at present, most of the forest-636,000 acres-have a “low” to “moderate aesthetic objective”. Many relatively high traffic areas which function as scenic corridors are not recognized as such.

In addition, Dispersed Recreation Areas such as North River and Hidden Valley are important Special Areas that are valued mostly for its visual and scenic character, yet, under the 93 forest plan, these areas are designated as suitable for timber harvest/production. Timbering activities would significantly harm the dispersed recreational values and opportunities and visual quality of these sites.

Action – The Conservation Alternative envisions a desired future condition that maximizes net public benefits by protecting all scenic corridors and dispersed recreation areas with a high visual quality objective. In addition to those mentioned at pg. 35 of the DLRMP, **“**Scenic Corridors” would include Old Parkersburg Turnpike (rt. 688), Marble Valley - Big River Road (rt. 600 in NRRD), Wolf Gap Road (rt. 675), Passage Creek Road (rt. 678), Rt. 340, Shenandoah – Warm Springs Mountains roads (WV rt. 3 – WV rt. 21 – VA rt. 614), Allegheny Mountain road (rt. 600 in WS/JR RDs), Hematite Road (rt. 159), Boiling Spring road (rt. 18), Vesuvius Road (rt. 608), Sherando road (rt. 664) (route numbers from 1993 GWNF Plan map).

31. Shenandoah Mountain

Shenandoah Mountain is the largest and most important single “special area” on the Forest. Stretching 60 miles in length and 15 miles in width, Shenandoah Mountain occupies almost 400,000 acres of public lands on the North River Ranger District in Augusta, Bath, Highland, Rockbridge, and Rockingham Counties, Virginia and Pendleton County, West Virginia. The Shenandoah Mountain area includes, at its core, Little River, Ramsey’s Draft and Bald/Ridge/Lynn Hollow/Ramsey’s Draft Extension, Gum Run, Skidmore Fork, Hankey Mountain, Shaw’s Ridge, Oak Knob, Dry River, and Broad Run; Hogpen Mountain, Feedstone Mountain, Dunkle Knob, Little Cow Knob, Kretchie Mountain, Wildcat Ridge and Beech Lick Knob to the north; and Signal Corps Knob, Jerkemtight/Benson’s Run, Crawford Mountain, Elliot Knob, Archer Knob, Walker Mountain and Sideling Hill to the south.

The crown jewel of the Central Appalachians, Shenandoah Mountain constitutes perhaps the largest single contiguous tract of National Forest in the eastern United States. As such it is of national significance as one of the largest relatively intact wildlands of any kind in the entire East.

Here are Wild Trout streams and quality Black Bear habitat, as well as endemic species such as the Cow Knob Salamander and Shenandoah Mountain Millipede. Here too are tracts of old growth forest and rare habitats such as shale barrens. In addition to these ecological benefits, the complex of roadless lands

that exists on Shenandoah Mountain is an unparalleled backcountry recreational resource in the region. Dazzling beauty abounds.

Shenandoah Mountain possesses probably the greatest amount of roadless areas and back-country recreational lands to be found in any single area between the Great Smoky Mountains National Park and the Adirondacks. Here are four clusters of Mountain Treasures with twenty-four individual Treasures totaling around 260,000 acres. Included in these Treasures are 112,000 acres in nine roadless areas previously “inventoried” by the Forest Service. Here too is the glorious Ramseys Draft Wilderness Area, as well as eight Forest Plan designated Special Interest Areas – Biological and the Laurel Run Research Natural Area.

Shenandoah Mountain contains the greatest concentration of old growth on the George Washington National Forest and in the Central Appalachians, with perhaps around 75,000 acres in this condition (see maps at pp. 210-11 of Southern Appalachian Assessment Terrestrial Technical Report and USDA FS "Stands 150 Years And Older CISC" map and CISC “old growth trend” at App. G-58 of 2004 GW-JNFs Monitoring Report).

On Shenandoah Mountain are headwaters of the James and Potomac Rivers, and of the legendary and beloved Shenandoah River. Segments of the North River and Cowpasture River qualify for inclusion into the National Wild and Scenic River System. Watersheds and impoundments on the Mountain supply the drinking water for tens of thousands of people in Staunton, Harrisonburg, and elsewhere.

Over 200 miles of hiking trails traverse the area. The 20-mile North Mountain Trail, the 25-mile Wild Oak Trail, a component of the National Trails System, and the 40 miles long Shenandoah Mountain Trail provide outstanding recreational opportunities.

Yet, under the 1993 Forest Plan, Shenandoah Mountain is managed under a menagerie of differing management area prescriptions with conflicting emphases that do not adequately conserve the special values and conditions found here. Management decisions and actions damage the Mountain’s significant ecological, social, recreational, economic, and spiritual values.

Action – Under the Conservation Alternative**,** in projecting a desired future condition that maximizes primitive recreation opportunity, unfragmented habitat, scenic quality and net public benefits, the entirety of Shenandoah Mountain is allocated to management prescriptions that fully and consistently preserve and restore its special values and conditions. In recognition of its critical significance and to effectuate conservation goals it is considered and studied for designation as a National Conservation Area. The entire area is designated as not suitable for timber harvest, road building, grazing, or mineral/gas/wind development. The

desired future condition for the SM Conservation Area will be an all-aged forest mimicking conditions of pre-European settlement. The Conservation Area will be forever wild with minimal development; of course, present developed recreational sites such as Todd Lake and Brandywine will be retained. Land uses here will be compatible with the maintenance of the species most sensitive to human-caused disturbance. Low-impact dispersed recreation will be the emphasis. The North River riparian area will be rehabilitated. NCA designation will increase the potential for remote backcountry non-motorized recreational experiences in a region close to our largest population centers, a region in which the demands made upon wildlands are ever growing. All of these management emphases will result in direct economic benefit to local communities.

Conclusion - A Final Note on Desired Future Condition

A mature forest moving towards climax, containing a natural mosaic of small openings, diverse habitats and species. Fewer roads, fewer exotics, more old growth. More wilderness. Native trout, freshwater mussels and neotropical migrant populations on the rise. Pure water, less sedimentation, higher drinking water quality. The largest roadless, primitive area in the east, Shenandoah Mountain. Lowest management costs. More scientific research , monitoring and educational opportunities. Large protected areas with corridors and linkages for wildlife and flora migration. Closed canopies. Increasing wood turtle habitat and populations. No commercial extraction so all benefits effect everyone equally. Local industrial and private landowners managing their forests for open market conditions, and high quality timber, prices not depressed from cheap timber from the GW or Jefferson. A forest that truly provides amenities and services not available elsewhere. Maximized net public benefits. This is our desired future condition…it is all of ours.

Our thanks to Steven Krichbaum whose generous, dedicated and detailed research and vision have guided every step of this Conservation Alternative. We also thank Dr. R. F. Mueller and Ernie Dickerman and all of those others who have led he way.

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Appendix #1 -Evaluation of Net Public Benefits

The following tables that show components of public costs and public benefits that might be included in a Net Public Benefit determination is exerpted from: Glaser, Christine and Moskowitz, Karyn, *Economic Analysis of the 2006 Wayne National Forest Plan*, Green Fire Consulting Group, LLC, Bloomington, IN, www.greenfireconsulting.com, May 2008, pg. 19, 21.:

Table 1: Monetary Costs and Benefits (expressed in $)

Monetary Costs (in $): Forest Service Expenditures **Resulting from Plan Implementation**	**Monetary Benefits (in $): Forest Service Revenues** **Resulting from Plan Implementation**
For example: • Forest Service personnel expenditures • Expenditures related to timber program (sale preparations, timber stand improvements, road building) • Expenditures related to fighting NNIS • Expenditures related to building and maintaining trails	***For example:*** • Recreation fees • Timber revenues
	Tax Dollars— Making Up the Shortfall Between Revenues and Expenditures

Table 2: Examples of Non-Monetary Costs and Benefits (expressed in qualitative or quantitative terms)

Non-Monetary Costs: Inputs, Negative Effects (Expressed in Quantitative or Qualitative Terms)	**Non-Monetary Benefits: Outputs, Positive Effects** (Expressed in Quantitative or Qualitative Terms)

Resulting from Plan Implementation	**Resulting from Plan Implementation**
For example: • Species habitat degraded or lost • Tons of soil eroded • Acres of soil compacted • Acres of land infested with Non-Native Invasive Species (NNIS) • Scenic quality impaired • Endangered species habitat degraded • Air quality impaired • Recreational value of land diminished • Water quality diminished • Historic/cultural features destroyed	***For example:*** • Species habitat improved or restored • Recreational value of land improved • Mines reclaimed • Water quality improved • Water flow stabilized (reducing flooding downstream) • Air quality improved • Eroding soils stabilized • Soil compaction broken up • Acres of land protected from NNIS infestation • Historic/cultural features identified and protected

Table 3: Monetary and Non-Monetary Costs and Benefits Combined—Leading to a Net Public Benefit

PUBLIC COSTS **Resulting from Plan Implementation**	**PUBLIC BENEFITS** **Resulting from Plan Implementation**
Forest Service Expenditures (in $) ***(Expenditures are covered partly by revenues, partly by Congressional appropriations)***	**Forest Service Revenues (in $)**
	Public Benefits

Public Costs **Expressed in Quantitative or Qualitative Terms** ***For example:*** • Species habitat degraded or lost • Tons of soil eroded • Acres of soil compacted • Acres of land infested with NNIS • Scenic quality impaired • Endangered Species habitat degraded • Air quality impaired • Recreational value of land diminished • Water quality diminished • Cultural/historic sites destroyed	**Expressed in Quantitative or Qualitative Terms** ***For example:*** • Species habitat improved or restored • Recreational value of land improved • Mines reclaimed • Water quality improved • Water flow stabilized (reducing flooding downstream) • Air quality improved • Eroding soils stabilized. • Soil compaction broken up • Cultural/Historic sites identified and preserved.
NET PUBLIC BENEFITS From Plan Implementation	

Appendix #2 - Biomass

There are basically two types of biofuel production which could potentially be considered as sourced from the GWNF: cellulosic ethanol and direct incineration. Both have potential to devastate Virginia's forests.

CELLULOSIC ETHANOL

Cellulosic ethanol is made by breaking down woody fiber and converting the byproduct into fuel. Because of the difficulties in separating lignin and other unconverted carbon compounds from cellulose and hemicellulose which is then broken down into sugars and fermented, producing cellulosic ethanol from forests is grossly inefficient. It takes much more energy to create cellulosic ethanol than can be utilized from the fuel itself. This has not prevented businesses from seeking large government financial subsidies and guarantees as economic incentives to jump into an economically and energetically unsustainable process. According to a former EPA scientist, "because natural forests contain the highest amount of cellulose per acre and because the infrastructure and labor force needed for logging and chipping exists where significant harvests are already underway, regions already known for their forest products are likely to dominate in [cellulosic ethanol] feedstock provision." (Laumer, J, 2007)

Already, a significant amount of logging in the GWNF supports the pulp and paper industry. “Imagine this already unsustainable level of forest management combined with large-scale consumption for use in the production of cellulosic ethanol. Clearcutting will increase well beyond current levels, threatening more of our endangered forests. Loggers would have strong financial incentives to remove any and all vegetative matter available including stumps. A greater level of conversion would [be likely to] occur, including the loss of natural forests to become fast growing tree plantations for use in production. More chemicals will be used and wildlife habitat will be lost at a much faster pace. Can we really afford to implement this ..?(Quaranda, S, 2009.)

DIRECT INCINERATION

Burning forests to produce electricity threatens to destroy and further diminish many of America’s and the world's forests. Direct incineration biomass refers to living and recently dead biological material that can be used as fuel for industrial electricity production. Congress is currently weighing the possibilities of sourcing plant material from natural forests for biomass electricity production. Businesses are currently looking at potential sights for biomass incinerators in the Commonwealth of Virginia.

All forms of biomass are not sustainable. They are ecologically destructive, they have a net energy loss, and there isn’t enough biomass in America to make significant amounts of energy because essential inputs like water, land, fossil fuels, and phosphate ores are limited.

Wood is a nonrenewable resource. Old-growth forests had very dense wood, with a high energy content. The few pockets of old growth on the GWNF are rare and valuable for what and the habitat they help create. Secondary forests do not come back with the vigor of the preceding forest due to soil erosion, soil nutrition depletion, and mycorrhizae destruction (Luoma 1999).

Wood from second and third and fourth growth forests are of lower quality with significantly lower energy content. And wood from fast-growing plantations is so low-density and low calorie it’s not even good to burn in a fireplace. These plantations require energy to plant, fertilize, weed, thin, cut, and deliver. The trees are finally available for use after 20 to 90 years – too long for them to be considered a renewable fuel (Odum 1996). Nor do secondary forests always come back with the vigor of the preceding forest due to soil erosion, soil nutrition depletion, and mycorrhizae destruction (Luoma 1999).

There’s not enough wood to fuel a civilization of 300 million people in the US. Over half of North America was deforested by 1900, at a time when there were only 75 million people (Williams 2003). Most of this was from home use. In the 18th century the average Northeastern family used 10 to 20 cords per year. At

least one acre of woods is required to sustainably harvest one cord of wood (Whitney 1994).

Protection and regeneration of forests, soils, freshwater, climate and biodiversity are urgent imperatives in the George Washington National Forest and creating new incentives and demands for the removal of any
natural plant material from the GW is misguided and will further degrade our values, our resources, and our ecosystems.
A single 50-megawatt biomass plant burns about 650,000 tons of trees a year, over a ton of wood a minute. 13,000 tons of biomass are required per megawatt of generation annually. (Massachusetts Department of Energy Resources, 2007)

Because natural forests contain the highest amount of cellulose per hectare, and because the infrastructure and labor force needed for logging and chipping exists where significant harvests are already underway, regions already known for their forest products are likely to dominate (Quaranda, 2009)

Biomass combustion competes with other industries that want this material for construction, mulch, compost, paper, and other profitable ventures, often driving the price of wood higher than a wood-burning biomass plant can afford.

BIOMASS AS INEFFICIENT ENERGY PRODUCTION

Wood is a less energy rich material than coal. More cellulose must be burned to release a comparable amount of energy to coal. In fact, biomass energy averages only 24% efficiency. Thus, 76% of the energy in wood is wasted while 100% of the wood burned generates pollution. MEEA, 2009)

Processing materials with different physical properties is energy intensive, requiring sorting, handling, drying, and chopping. Combustion plants need to produce, transport, prepare, dry, burn, and control toxic emissions. Collection is energy intensive, requiring some combination of bunchers, skidders, whole-tree choppers, or tub grinders, and then hauling it to the biomass plant. There, the feedstock is chopped into similar sizes and placed on a conveyor belt to be fed to the plant.

It’s hard to optimize the pyrolysis, gasification, and combustion processes if different combustible fuels are used. Efficiency is lowered if material with a high water content is burned, like fresh wood. Different physical and chemical characteristics in fuel can lead to control problems (Badger 2002). When wet fuel is burned, so much energy goes into vaporizing the water that very little energy emerges as heat, and drying takes time and energy.

AIR QUALITY

Burning biomass for energy emits large amounts of air pollution and endangers human health. Biomass incinerators produce hundreds of tons of nitrogen oxides and volatile organic compounds, two ingredients of the ground-level ozone dangerous to human respiratory health and the environment (Environmental Protection Agency, www.epa.gov/particles/).

Biomass burning also produces tons of fine particulate matter, a pollutant associated with asthma, heart disease and cancer for which no safe level is known. Biomass emits as much matter per KWH as coal, and more than either natural gas or fuel oil. Particulates are considered more responsible for global warming than CO2 alone. This is bad for the climate and really bad for humans, animals and all things that like to breathe.

Biomass burning emits 1.5 times as much carbon monoxide (considered a toxic air pollutant) and 1.5 times as much carbon dioxide (the most important and damaging of greenhouse gasses) as coal. (Massachusetts Environmental Energy Alliance, 2009)

Yet, despite being as dirty as coal, biomass incineration is formally designated along with wind and solar sources as “clean energy” in the American Clean Energy and Security Act of 2009, HR 2454, making biomass incineration qualified for renewable energy credits.

Biomass conversion, like all incineration -- is a doomed technology. These processes generate hazardous emissions and toxic ash or residue, are very expensive, compete with recycling programs, and destroy valuable resources.

Combustion pollution is expensive to control. Some biomass has absorbed heavy metals and other pollutants from sources like coal power plants, industry, and treated wood. Combustion can release chlorinated dioxins, benzofurans, polycyclic aromatic hydrocarbons, cadmium, mercury, arsenic, lead, nickel, and zinc. Combustion contributes to global warming by adding nitrogen oxides and the carbon stored in plants back into the atmosphere, as well as removing agriculturally essential nitrogen and phosphate (Reijnders 2006)

NEPA, LIFE CYCLE OF RESOURCES AND ENVIRONMENTAL IMPACTS

The planners and project managers on the GW have a responsibility to look at the entire live cycle of forests and their potential uses in planning and decision making. If the GWNF is to consider the use of our forest for biomass production, such consideration should include detailed analysis of these effects such as would be included in an Environmental Impact Statement required by NEPA, which would include “cradle to grave” impacts at every step of the process. If the GWNF plan were to allow production for woody biomass, it would be responsible

for all of these impacts and all of those noted here. They all need to be considered in detailed analysis.

The answer to the question about burning dead trees as biofuel--the forest desperately needs that biomass to regrow and be healthy. If take the dead trees out we are reducing the health and thereby the carbon soaking potential of the next forest. Indeed as others have noted the declining forest might have as much to do with a merely a less healthy woods due not only or even necessarily because of global warming but because we humans took one, two, three or more round of timber out thereby making a less and less healthy ecosystem, just a like garden that is never fertilized, one that gets sick, susceptible to pests, and finally fails miserably. This lie that the timber industry and some big greens have gotten into the public mind that forests are renewable is a real problem--something grows back but not the forest that was cut, and eventually nothing happy at all.

VEGETATION MANAGEMENT

When the proposed plantation landmass or prices to plantation sharecroppers proves inadequate, this leads to whole tree chipping (tops and all), incursions into remaining native forests, expansions of plantation lands, increased clearcutting on lands otherwise selectively cut, creates markets for all junk trees, and encourages in-woods chipping which can ultimately lead to stump harvests to try to meet the demands of the burner. Biomass energy production will encourage clearcutting, conversion of native forests to biomass farms, and promote nutrient draining short rotation biomass production.

FORESTS AND CARBON

The use of biomass incineration is a far cry from being “carbon neutral.” In addition to increasing greenhouse gasses, the carbon released takes decades to re-sequester, a fact recognized by the Intergovernmental Panel on Climate Change (IPCC, 2008). Young trees that grow back after logging sequester just a fraction of the carbon that’s been removed and even after 25 years after cutting, new growth on a site is less than half of what was removed (Hubbard Brook Long Term Ecological Research, www.hubbardbrook.org).

THE MYTH AND THEORY OF RENEWABILITY

Trees may be renewable, but forests are not.

Whenever timber removal or vegetation management is practiced, the assumption is, in theory, that a forest will grow up to replace the one cut. While an individual seedling tree may or may not have the potential to replace a removed tree, subsequent forests fail to replicate, match or approach the quality of the forest which it is, in theory replacing. In addition, future health and productivity of ALL forests is unclear. Studies are showing that some forests are

beginning to not soak up CO2 due to rampant tree death. Complex components of a forest ecosystem, soil, fungi, microorganisms and decomposers will not likely recover in several lifetimes.

WATER

A large scale biomass plant requires close to a million gallons a day for cooling. Hundreds of thouseands of gallons of this water are vaporized in the cooling process. Plant cooling needs and water takings are greatest in the summer when high temperatures already reduce river flows and stress native fish. In addition, impacts of water takings will worsen as climate warming and droughts further stress our rivers and water resources.

Biomass operations contaminate local rivers and water supplies. Heavily contaminated ‘boiler water” rinse water gets pumped back into rivers at unnaturally high temperatures. This and all cooling water is taken from nearby sources. To minimize transportation costs, biomass plants are located near their sourcing areas. Therefore, decisions regarding biomss sourcing from the GWNF would directly impact the very streams and water sources which find their headwaters in the GWNF.

Of course, clearcutting, vegetation clearing and roading which would accompany any biomass sourcing will simultaneously compact and erode soils, increase sediment loss and loads in streams and significantly impair the water quality and temperature of streams in the GWNF.

SOILS

Soil science should be factored into decisions about biofuel production.

In forests as well as farms, erosion is happening ten to twenty times faster than the rate topsoil can be formed by natural processes (Pimentel 2006). Soil forms an integral part of the environment. All plants depend on it as a reserve of nutrients for healthy functioning, thus making soil essential for the production of food, crops, forests, maintaining biodiversity and for the landscape. Major nutrients contained in fertile soil are phosphorous, potassium, nitrogen, calcium, magnesium and sulfur. Dissolved, they are taken up through the roots of plants, incorporated into plant biomass and finally returned to the soil when plants die or shed.

The forest desperately needs its own source of biomass to regrow and be healthy. If take the dead trees out we are reducing the health and thereby the carbon soaking potential of the next forest. Indeed as others have noted the declining forest might have as much to do with a merely a less healthy woods due not only or even necessarily because of global warming but because we humans took one, two, three or more round of timber out thereby making a less

and less healthy ecosystem, just a like garden that is never fertilized, one that gets sick, susceptible to pests, and finally fails miserably.

Logging slash left to decompose on site is not wasted wood. It provides an excellent source of carbon and nutrients for forest soil, badly needed after the extraction of large quantities of biomass in the form of logs. Tree tops in particular are very rich in nutrients. If logging slash is used for green energy, it may give rise to the "vacuum cleaner" effect. Instead of going into a site and hauling out logs, timber operators would be encouraged to "vacuum" up and remove *all* woody material. Chipping trees for electric power generation is a terrible, low value waste of a resource that should be treated as precious. Forest land is far more valuable unused than it is if used for wood chips.

Bioenergy production from forests and forest residues can affect the naturally balanced nutrient cycles leading to degradation of soil fertility. Removing nutrients when trees are harvested especially in the case of rapid-growing soft woods (with low btu content) and complete removal of logging residues ultimately interrupts the natural process by which decomposing plant matter would replenish soil nutrients and effectively makes the soil less fertile. Adverse affects on the community of microoganisms responsible for nutrient cycling or chemical and physical changes in the soil causing nutrients to be converted into compounds less usable to trees also contribute to the decreased soil fertility.

The most prudent course, clearly, is to continue to recycle most crop residues back into the soil, where they are vital in keeping organic matter levels high enough to make the soil more open to air and water, more resistant to soil erosion, and more productive" (Sampson 1981).

SOIL AND CARBON

Soils contain twice the amount of carbon found in the atmosphere, and three times more carbon than is stored in all the Earth’s vegetation (Jones 2006). Given that climate change could increase soil loss by 33% to 274%, depending on the region (O'Neal 2005), and the increased sedimentation and erosion of biomass sourcing areas, the ability of soils to sequester carbon would be significantly reduced and impaired by any biomass sourcing in the GWNF.

SOIL AND NATIONAL SECURITY

Soil is the bedrock of civilization (Perlin 1991, Ponting 1993). Biofuels are not sustainable or renewable. Why would we destroy our topsoil, increase global warming, deplete and pollute groundwater, destroy fisheries, and use more energy than what’s gained to make ethanol or electricity which cointinues to be used inefficiently? Why would we do this to our children and grandchildren?

Perhaps it's a combination of pork barrel politics, an uninformed public, short-sighted greedy agribusiness corporations, jobs for the Midwest, politicians getting too large a percent of their campaign money from agribusiness (Lavelle 2007), elected leaders without science degrees, and desperation to keep an unsustainable economy on life support (Bucknell 1981, Hirsch 2005).

But this madness puts our national security at risk. Destruction of topsoil and collateral damage to water, fisheries, and forests will result in less healthy communities, both human and biological. Diversion of precious dwindling energy and money to impossible solutions is a threat to our nations' future.

CONCLUSION

Given the costs, economically and environmentally, it is unbelievable that biomass production could be considered for the forests of Virginia and the George Washington National Forest. "But that is the way the market works. The "free" market never pays it's true costs. We do with our taxes, subsidies, and health" (Danny Haldeman, e-mail correspondence, 06/15/09).

The shear volume of needed land to make biofuels economically viable will have massive impacts on our forests. Every current agrofuels scam is reverberating around the world and making global climate change worse, affflicting indigenous folks and local communities around the world whether through land theft or water quality and availability and food prices, and doing absolutely nothing to abate our use of fossil fuels.

For all of the above stated reasons, the GWNF plan should specify all land off limits and inappropriate for biofuels production.

Appendix #3 – Oak Decline and Oak Regeneration

The Forest Service uses oaks to rationalize intensive management activities such as timber sales. The agency claims that if there are fewer numbers of oaks on the GWNF then it is unhealthy. The FS also claims that oaks need intensive even-age logging to maintain themselves on the Forest. The agency seems unwilling to reasonably address reason, science, and empirical evidence. The assumption that oaks will disappear without timber sales and that wildlife will disappear without unnaturally high numbers of oaks is clearly unjustified, unsupported and incorrect.

Disturbances and moisture, edaphic, and topographic gradients are important factors in oak persistence (McEwan, R.W. and R.N. Muller 2006; Lawrence, D.M. *et al*. 1997; Mueller, R.F. 1996; Johnson, P.S. 1993; Zahner, R. 1992). "Given the proper conditions for regeneration (i.e., canopy disturbance), oaks will

successfully seed into subxeric and mesic sites and can obtain canopy positions on those sites." (McEwan, R.W. and R.N. Muller 2006; see also Clinton, B. 2003) Most of the GWNF is relatively dry compared to other places in the East and there is certainly no "absence of disturbance".

In this region, over time a more diverse mixture of tree species (not so dominated by oaks) can be expected to naturally develop and exist, particularly at more mesic sites (Braun, L. 1950). However, this natural development has been impeded and truncated, in the past and continuing into the present. Many of the lands constituting the GWNF were subjected to numerous human generated disturbances in the recent past, such as post-European-settlement logging, fires, agricultural activities, and introduction of the Chestnut blight. To various degrees and extents, these past anthropogenic actions have altered the composition of the vegetation. As a result, at various sites the present-day forests of the GWNF may contain an unnaturally high proportion of oaks. Thus far, the Forest Service has been intent on perpetuating this artificial condition.
The reason for this is clear: Oaks are the primary commercial tree species on the GWNF. The "need" to regenerate oaks by intensive logging is a primary rationale for most timber sales and prescribed burns. However, oaks are not fire dependant. And on the GWNF it is not just intensive even-age logging by itself that results in the regeneration of oak stands. Oak stands result from even-age logging followed by timber stand improvement followed by precommercial thinning followed by crop tree release followed by commercial thinning (usually with applications of herbicides along the way). The exact order or nomenclature or number of these applications may vary, but regardless, it is this accumulation of various "management" actions, costing lots of tax-dollars and which constantly remove other species and/or manipulate proportions of species, that may ultimately result in a preponderance of oaks at sites subjected to even-age logging.

The agency has thus far failed to fully and fairly consider and explicitly disclose all of this in its public disclosure, evaluation, and selection of a purported "need" (or objective or goal or desired condition) to use intensive even-age cutting to maintain oak stands on the Forest. Nor are all the costs of these "management" actions properly/explicitly accounted for in the economic analyses for individual timber sales (in this way, the below-cost nature of sales and the subsidization of private timber industry profits are hidden from the public). Natural disturbance regimes that operate on the Forest have maintained oaks in the past and can reasonably be expected to do so in the future.

Appendix #4 – Restoration Opportunities for Road Closures, decommissionings and Obliterations

There are opportunities for decommissioning, closing, and revegetating roads in VMTs and PWAs. For example, the Peters Mountain road (FSR #175) in the Snake Run Ridge MT, currently closed to public motorized use, is a good

candidate; also, western portions of road #173 (Benson Run) in the Jerkemtight VMT, the Potts Mountain “road” between Toms Knob MT and Barbours Creek Wilderness Area (there are chronic and expensive problems involved with abuse of this route), portions of “road” #387/trail #488 at the ridge crest of Walker Mountain (the portion at the middle/north end of the Mountain Treasure past the route #488 closure at the Back Draft Trail intersection), and portions of roads #93, 371, and 400 in the Big Schloss MT.

Some suggested candidate road segments to be evaluated for decommissioning, closure, recontouring, revegetating, and conversion to non-motorized trails (road numbers from 1993 GW Plan maps) include the following: In Scaffold Run MT (WSRD) FSR 258A and 258C; in Warm Springs Mountain MT (WSRD) FSR 358; in Short Mountain MT (WSRD) the Lick Run road; in Laurel Fork MT (WSRD) FSR 457 and the Slabcamp road; in Mill Mountain MT (JR and WSRDs) FSRs 362 and 1923; in Beards Mountain RA (JR and WSRDs) FSR 361, 361C, 361E
In Jerrys Run MT (JRRD) FSR 698; in Snake Run Ridge MT (JRRD) FSR 277 (the portion past the juncture with 277A that crosses two wild Trout streams, Crow and Little Crow Runs) and FSR 175 (Jingling Rock); on the JRRD the Potts Mountain “road” between Toms Knob MT and Barbours Creek Wilderness Area (there are chronic and expensive problems involved with abuse of this route); in Longdale MT (JRRD) road 271E; in Fore Mountain MT (JRRD) FSR 448 and 448A ; in Kelley Mountain MT (PRD) FSR 162B (Kennedy Ridge)
In Three Sisters MT (PRD) FSR 510 (stem off of Poplar Cove towards Bennetts Run); in St. Marys WA addition A (PDR) road # 42-A; in Dry River MT (NRRD) Miller Run road (WV 68); on the NRRD FSR 225 and/or 225B that separates Gum Run and Oak Knob RAs (Maple Spring); in Oak Knob potential WA (NRRD) road 62 above Hone Quarry impoundment; in Dunkle Knob MT (NRRD) the Dice Run and Stony Run roads; on the NRRD FSR 72C that separates the Feedstone Mountain and Wildcat Ridge MTs; in the Beech Lick Knob MT (NRRD) FSR 235 and the Root Run “road”; in Wildcat Ridge MT (NRRD) “road” 597 at Rader Mountain; in Walker Mountain MT (NRRD) “road” 387 at the ridge crest of Walker Mountain (the portion at the north end of the Mountain Treasure past the road closure at the Back Draft Trail intersection; this is a trail, not a road passable by passenger vehicles); in Benson RunJ erkemtight MT (NRRD) FSR 396A (in the northern section of the MT); in Elliot Knob MT (NRRD) the Montgomery Run and Liptrap Run roads # 1760 and #1625A (above Hotshots); in Hankey Mountain MT (NRRD) FSR 425 and 425A; in Ramseys Draft (Bald Ridge/Lynn Hollow) MT (NRRD) the Rattlesnake Run roads # 455 and 455A and the road northeast of Braley Pond #254; on the NRRD FSR 95 from Camp Todd to FSR 85 (an expensive to maintain section that separates the Ramseys Draft and Little River RAs totaling around 55,000 acres); in the Jerkemtight, Benson Run MT (NRRD) FSR 173 west of the Shenandoah Mountain crest and FSR 399 to Wallace Peak; in Short Horse Mountain MT (LRD) the Browns Run road; on the Lee RD FSRs 93, 371, and 400 - the Paddy/Cove Runs road in VA (the portion south of the borrow pit in Frederick County about a mile in from Rt. 55 or from south of where access to private inholding is provided) that serves to separate Great North

Mountain MT from Big Schloss MT and Jonnies Knob MT; in Big Schloss MT (LRD) the Cove Run road # 371in WV and (LRD) FSR 1863 at Cedar Run and "road" # 1719 in the center of the MT northwest of FSR 88.

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Shenandoah Headwaters Home Rivers Initiative Coordinator

May 6, 2010

George Washington Plan Revision
George Washington and Jefferson National Forests
5162 Valleypointe Parkway
Roanoke, Virginia 24019

RE: GW Plan Revision

Dear Plan Revision Team:

The George Washington National Forest is a stronghold for native brook trout in Virginia and of particular interest to Trout Unlimited to see that those populations are protected. Trout Unlimited is the nation's leading coldwater conservation organization committed to conserving, protecting, and restoring North America's coldwater fisheries and their watersheds. The Shenandoah Headwaters Home Rivers Initiative is a multi-year conservation project focused on improving native brook trout habitat and populations in the Shenandoah Valley. To accomplish this goal Trout Unlimited uses a four prong approach of "Protect, Reconnect, Restore, and Sustain". This design protects our best remaining stream resources, reconnects them within the watershed, restores degraded stream segments, and sustains these activities through outreach and education.

I appreciate the opportunity to provide comments and suggestions on the breadth and depth of the proposed Environmental Impact Statement (EIS) the Forest Service intends to prepare as part of the George Washington Plan Revision under the 1982 Planning Rule. There are many emerging threats to the ecological integrity of the forest's natural resources that were not considered major issues during 1993 plan revision. Featured prominently in those new threats is an increased interest in the exploration and development of Marcellus Shale natural gas in the Appalachian Region.

This new interest in the Marcellus Shale natural gas play has come about due to economic forces and advancements in drilling and extraction technology that pose a serious threat to the water quality and quantity of our surface and groundwater supplies, and our recreational opportunities on the forest. The environmental impacts of this new technology which involves large quantities of water mixed with sand, biocides, and a suite of industry secret chemicals to hydraulically fracture the rock layer and release the natural gas are not fully understood and numerous reports of groundwater and surface water contamination have been reported from other Marcellus Shale states like Pennsylvania and West Virginia. The EIS conducted as part of the Forest Plan Revision should include a full assessment of the potential impacts from Marcellus Shale natural gas drilling and development to the forest's aquatic resources particularly native brook trout streams.

A thorough analysis of the environmental impacts associated with Marcellus Shale natural gas development activities should include examination of: hydrofracing, site access and road development, water withdrawals and disposal, delivery pipeline construction, and increased vehicle activity. The EIS should also examine the long term impacts of Marcellus Shale natural gas development on the forest's landscape and other uses, in addition to the immediate site specific localized impacts. The Notice of Intent in the Federal Register indicates the environmental analysis for designating lands on the George Washington NF that will be administratively available for oil and gas leasing are exempt from site specific NEPA review and that all environmental analysis pertaining to that decision will be included in the Forest Plan EIS. Under those circumstances it is imperative that the Forest Plan EIS be thorough in its examination of potentially adverse impacts to fisheries habitat, water quality, water quantity, forest fragmentation, and other forest uses resulting from Marcellus Shale natural gas leasing, drilling, hydrofracing, development, and pipeline delivery.

Due to the lack of knowledge and peer reviewed scientific research into the effects of Marcellus Shale no new federal leasing of Marcellus Shale natural gas rights should occur on the George Washington NF until EPA concludes a study initiated this year to investigate the water quality and public health threats posed by Marcellus Shale natural gas drilling and hydrofracing and the Forest Plan Revision EIS is completed.

I appreciate the opportunity to offer comments on the George Washington Forest Plan Revision Environmental Impact statement and look forward to additional opportunities to participate in the Forest Plan Revision process.

Sincerely,

J. Seth Coffman
Coordinator Trout Unlimited Shenandoah Headwaters Home Rivers Initiative

Trout Unlimited: America's Leading Coldwater Fisheries Conservation Organization
505 North Main Street, Suite 102 Woodstock, VA 22664
540.459.8163 • email: scoffman@tu.org • http://www.tu.org

Ana Maria Mendez
<ammendez55@yahoo.com>

05/07/2010 03:26 PM

To comments-southern-georgewashington-jefferson@fs.fed.us
cc
bcc
Subject HYDRAULIC FRACTURING IN THE GEORGE WASHINGTON NATIONAL FORREST

FROM:
ANA MARIA MENDEZ
24234 GERMAN RIVER RD
CRIDERS, VA 22820
540-852-3422
ammendez55@yahoo.com

Monongahela Forrest has been compromised because of natural gas drilling. The gulf coast has been compromised by methane through oil drilling. It is understood that hydrofracking for natural gas is a problem which will compromised any piece of land utilize for FOSSIL FUEL EXTRACTION.

The George Washington National Forrest should in NO WAY be harmed by such activities and should never be compromised as such.

I beg that the stewards of the GW National Forrest will never make such a mistake as to physically imperil the resources of the environment in such a manner.

Thank You

In Solidarity Always
Ana Maria Mendez

"Once change begins, it cannot be stopped. You cannot uneducate the person who has learned to read. You cannot humiliate the person who feels pride. You cannot oppress the people who are not afraid anymore. Our people are on the move. Our day is coming. It may not come this year. It may not come during this decade. But it will come, someday!" - Cesar Chavez

William Flint
<flintwd@jmu.edu>
Sent by:
neandertal77@gmail.com

05/07/2010 03:33 PM

To comments-southern-georgewashington-jefferson@fs.fed.us
cc
bcc
Subject Forest Plan comments

Hello,

I am a faculty member in the Biology dept. at James Madison University and I also live very near to the National Forest in Rockingham county. I am deeply concerned about the recent surge in interest in exploiting the lands in this county for energy production. Specifically, I very strongly urge you to NOT allow either hydrofracking/gas drilling within the national forest OR wind farms to be located on mountain ridges within the national forest. Our National Forests are an absolute treasure of biological diversity, and also provide us with opportunities to enrich our lives through interactions with nature and wildlife such as hunting, fishing, hiking/backpacking/camping, birding/wildlife observation, mountain biking, or even just seeking a quite place of solace. The mountainous terrain that much of the National forest is within in this area provides a refuge for many species of wildlife that don't and even cannot survive in much of the rest of the state which has been fragmented into farmland and urban areas. Using the National Forests to exploit energy resources would significantly degrade our rich biological/environmental resources and greatly reduce the quality of any other uses that the Forest has to offer. Trees remove CO2 from the atmosphere and provide oxygen in return. They also reduce ground and stream temperatures and slow surface water runoff. Please let us keep the National Forests as a sanctuary for both our native species of plants and animals to thrive and for our citizens to enjoy through the multiple uses mentioned above. Long term affects of energy exploitation will be devastating - whereas other uses of the forest are more sustainable and can benefit people more in the long term, than for some short term monetary profit.

Thank you for considering these comments.

Sincerely,

William Flint

Shenandoah Forum <info@shenandoahforum.org>

05/07/2010 03:36 PM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject Shenandoah Forum GWNF Plan Comments

To whom it may concern,

On behalf of Shenandoah Forum, I applaud the Forest Service for its efforts to involve the public in developing the future management plan for GW National Forest. With more than 26% of the land in Shenandoah County within the Forest and as a source of the drinking water for many of the County's residents, the future activities on the Forest are of particular interest to the Forum.

We would encourage the Forest Service to ensure that the new plan will avoid negative impacts on our watersheds by providing protection for public drinking water resources, restrictions on Marcellus Shale gas drilling and limits on industrial wind energy projects on our public lands.

- Shenandoah Forum and 40 local governments or civic groups, including the Shenandoah County Board of Supervisors, adopted resolutions in the past two years calling on the Forest Service to provide comprehensive protection of drinking water resources.
- In 2009, the GW National Forest denied a request from a private company to build 131 wind turbines in the forest on Great North Mountain. The forest's public lands and its mountain ridges are not the right place for commercial wind power projects.
- The GW National Forest lies on top of the Marcellus Shale geological formation, a promising source of natural gas. Reportedly, there are 30,000 acres of private lands in the northern Shenandoah Valley now under lease for natural gas drilling. Yet there are not sufficient federal or state regulations to protect water quality from the impacts of a gas mining process called hydraulic fracturing, despite reports of water contamination and other public risks.

At more than a million acres in size, a source of drinking water for many thousands of area residents, including many of us here in Shenandoah County, and home to an incredible diversity of wildlife and natural communities, the GW National Forest is a tremendous resource that must be managed wisely. Issues such as roadless areas, watershed protection, creation of Special Biological Areas, old growth inventories and protection, and more must be fully addressed.

Thank you for your time,

Kim Woodwell

Shenandoah Forum

Kim Woodwell
Shenandoah Forum Executive Director
kbw@shentel.net
540.333.3681
info@shenandoahforum.org

Shenandoah Forum
info@shenandoahforum.org

Planning.comments.form@ svinet2.fs.fed.us

05/07/2010 03:39 PM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject

Submitted by: Chuck Yarbrough
At: ukoffroad@gmail.com
Remark: I would like to express my concern for the expansion of the Wilderness areas in the GWNF. I do not feel that this is the best way to protect that land, as we are left with no ability to alter the plans without permission from Congress. Keep the control in the hands of the local FS folks. I would also like to see more of the forest open to offroad access.

Planning.comments.form@ svinet2.fs.fed.us

05/07/2010 03:44 PM

To comments-southern-georgewashington-jefferson@fs.fed.us

cc

bcc

Subject

Submitted by: Grace Holden
At: GMH829@aol.com
Remark: The George Washington National Forest is one of Virginia\'s greatest natural resources and treasures. It is also one of our key sources for drinking water. For these reasons, I urge you to do all you can to protect this forest, in particular:
-- Please designate it as unsuitable for timber harvest, new roadbuilding, and surface-occupying oil and gas drilling (all of which would have devastating effects)
-- Identify and protect all roadless areas, either previously inventoried or recently identified, consistent with the provisions of the 2001 Roadless Rule
-- Protect the Shenandoah Mountain Area for its special ecosystem and recreational opportunities by endorsing the proposal for a National Scenic Area on Shenandoah Mountain as described on the Friends of Shenandoah Mountain Website: http://www.friendsofshenandoahmountain.org/
-- Protect all existing Old Growth forest
-- Protect all watersheds especially those that directly supply drinking water
-- Protect and buffer all “Special Biological Areas” and adequate habitat for all endangered, threatened and rare species.

This is a lot to ask, but every bit of it is critical to protect such a valuable resource, and in a time when so many aspects of our environment are being fragmented, polluted, and demolished. I urge you to designate many more areas for wilderness and for national scenic area designation than the small number suggested by the Forest Service so far.

Thank you for considering my thoughts on this issue that is extremely important to me as someone who cherishes Virginia\'s wild places and wildlife.

Ralph Grove
<ralph.grove@gmail.com>
05/07/2010 04:01 PM

To comments-southern-georgewashington-jefferson@fs.fed.us
cc
bcc
Subject Comments on GW National Forest Plan

The GW National Forest lies on top of the Marcellus Shale geological formation, a promising source of natural gas. Reportedly, there are 30,000 acres of private lands in the northern Shenandoah Valley now under lease for natural gas drilling. Yet there are not sufficient federal or state regulations to protect water quality from the impacts of a gas mining process called hydraulic fracturing, despite reports of water contamination and other public risks. The new Forest Plan should:

- Prohibit any natural gas leasing or drilling within the 44 percent of the GW National Forest, a total of 425,874 acres, which contains watersheds for the five public reservoirs and eight rivers or creeks that provide public drinking water in the Shenandoah Valley. Roadless areas on the Forest are also inappropriate for gas leasing.
- Impose a moratorium on natural gas leases elsewhere in the forest until the U.S. Environmental Protection Agency completes a national study on, and develops regulations governing, the water quality and public health impacts of Marcellus Shale natural gas hydrofracking and drilling.

Ralph Grove
445 Preston Dr.
Harrisonburg, VA 22801
ralph.grove@gmail.com

"Cecily Kihn"
<cecily@cecilykihn.us>
05/07/2010 04:06 PM

To <comments-southern-georgewashington-jefferson@fs.fed.us>
cc
bcc
Subject Comments on plan for the GW National Forest

These are the important things for the US Forest Service to consider in developing an appropriate plan for the GW National Forest.

Manage comprehensively to protect public drinking water supplies. The GW National Forest supplies drinking water to a quarter of a million residents in the Shenandoah Valley. The plan:

- Identify and map the health of entire drinking watersheds in the forest.
- Develop specific management objectives for these watersheds that make it just as important to preserve, protect or enhance water quality in sensitive watersheds as it is to facilitate other forest activities
- Create and implement a plan to monitor the health of drinking water resources (reservoirs, rivers, streams, watersheds) to ensure a continued supply of clean water from the forest.
- Work with local communities, agencies and the public to permanently maintain water quality from forest sources, and thus avoid the costly need for public water treatment plants.

Protect Sensitive Mountain Ridges from Industrial Wind Energy Development

- The Mid-Atlantic bight is the place for industrial wind installations, not the ridgetops of the Appalachians.

Protect Ground and Surface Water from Marcellus Shale Natural Gas Drilling

- Prohibit any natural gas leasing or drilling within the 44 percent of the GW National Forest, a total of 425,874 acres, which contains watersheds for the five public reservoirs and eight rivers or creeks that provide public drinking water in the Shenandoah Valley. Roadless areas on the Forest are also inappropriate for gas leasing.
- Impose a moratorium on natural gas leases elsewhere in the forest until EPA completes a national study on, and develops regulations governing, the water quality and public health impacts of Marcellus Shale natural gas hydrofracking and drilling.

_____ Information from ESET NOD32 Antivirus, version of virus signature database 5096 (20100507) _____

The message was checked by ESET NOD32 Antivirus.

http://www.eset.com

PAT CHURCHMAN
<patchu2@verizon.net>
05/07/2010 04:21 PM

To comments-southern-georgewashington-jefferson@fs.fed.us
cc
bcc
Subject comments

I agree completely with the goals that the GW National forest plan must protect drinking water, must protect mountain ridges from bird destroying windmills (I understand there are some in Finland [Sweden?] that do not harm birds and take up much less space), and maybe, most importantly of all, protect ground and surface water from natural gas drilling (hydrofracking). Thank you very much for your consideration of these matters.
Pat Churchman

Anna Maria Johnson
<annamar@mac.com>
05/07/2010 04:28 PM

To comments-southern-georgewashington-jefferson@fs.fed.us
cc
bcc
Subject drilling in National Forest

To Whom it May Concern:

Our national forest is a valuable resource for many people and animals, and should continue to be valuable for future generations. I write to express my concern about the possibility of drilling for natural gas there. I fully support the positions of the Shenandoah Valley Network as expressed below:

Protect local watersheds:
Identify and map the health of entire drinking watersheds in the forest, not just the perimeters around public reservoirs or the buffers on streams.
Develop specific management objectives for these watersheds that make it just as important to preserve, protect or enhance water quality in sensitive watersheds as it is to facilitate other forest activities
Create and implement a plan to monitor the health of drinking water resources (reservoirs, rivers, streams, watersheds) to ensure a continued supply of clean water from the forest.
Work with local communities, agencies and the public to permanently maintain water quality from forest sources, and thus avoid the costly need for public water treatment plants.

Protect Sensitive Mountain Ridges from Industrial Wind Energy Development

In 2009, the GW National Forest denied a request from a private company to build 131 wind turbines in the forest on Great North Mountain, an action we strongly endorsed. The forest's public lands are not the right place for commercial wind power projects.

The destructive impacts of road building, clearing and construction fragments the forest landscape and affects water quality and wildlife habitat.
Wind energy towers impact the natural views and vistas valued by forest visitors and local residents.
Operation of large-scale wind turbines on our Appalachian ridges can have substantial impacts on wildlife, particularly rare bat species and migratory birds.
There is plenty of private land with equal potential to generate wind power, before public lands are ever developed.

Protect Ground and Surface Water from Marcellus Shale Natural Gas Drilling

The GW National Forest lies on top of the Marcellus Shale geological formation, a promising source of natural gas. Reportedly, there are 30,000 acres of private lands in the northern Shenandoah Valley now under lease for natural gas drilling. Yet there are not sufficient federal or state regulations to protect water quality from the

impacts of a gas mining process called hydraulic fracturing, despite reports of water contamination and other public risks. The new Forest Plan should:

Prohibit any natural gas leasing or drilling within the 44 percent of the GW National Forest, a total of 425,874 acres, which contains watersheds for the five public reservoirs and eight rivers or creeks that provide public drinking water in the Shenandoah Valley. Roadless areas on the Forest are also inappropriate for gas leasing.
Impose a moratorium on natural gas leases elsewhere in the forest until the U.S. Environmental Protection Agency completes a national study on, and develops regulations governing, the water quality and public health impacts of Marcellus Shale natural gas hydrofracking and drilling.

Thank you for your interest in hearing local voices.

Respectfully,

Anna Maria Johnson
Broadway, Virginia

Jim Bryan
<jimbryan@earthlink.net>
05/07/2010 05:04 PM

To comments-southern-georgewashington-jefferson@fs.fed.us
cc
bcc
Subject Comments on the revisions of the GW National Forest management plan

I have three comments that I would like to include in the scope of analysis for the revision of the management plan for the George Washington National Forest.
Comment I concerns the Research base for revision of the GW National Forest plan; Comment II suggests broadening and balancing the analysis of the values of non-timber products, resources and benefits of the GW National Forest; and Comment III encourages continuing and strengthening the Public participation in the development of the plan and the management of the GW National Forest.

Comment I: Research base for revision of the GW National Forest plan.

In developing the revised plan for management of the George Washington National Forest, a major concern, probably the major concern, needs to be the present status of the GW National Forest and its trends, as well as the status of the surrounding Appalachian forests. In response to my preliminary inquiry, I have just received several research summaries on the status of Virginia's forests from the Roanoke office of the Forest Service. Thank you. While I have not yet been able to read much of the abundant reports, I am looking forward to exploring them, seeing how the research is incorporated into the Plan's revision, and how the public is included in this joining of research with practice. The literature you sent is rich in inventories; I'll be interested to see how we can move from inventories to research to insights to action, and, hopefully, to the improvement of our forests.

I note, for example, a major summary of the inventories: "Yellow-poplar dominated the State's total live-tree volume with 5.5 billion cubic feet (13 percent of the total). Red maple dominated the number of live stems with 1.5 billion stems (13 percent of all live stems)"(The Forest Service's Virginia's Forests 2001).
When I have seen an overabundance of red maple, either on my own place or in the GW National
Forest, I have considered it a management failure of the past and trouble for the future. It generally means high-grading, doesn't it? How will this inventory information about red maple lead to improvement in the GWNF? The high yellow-poplar volume raises a different question: if the high yellow poplar volume represents the replacement of oaks by yellow poplar, what management is needed, and possible, to enable preserving a healthy presence of oaks in the GWNF? And, much more generally, how have the periodic forest inventories dating back to 1940 been correlated to give us a picture of trends in forest growth and forest health.

I also note in Virginia's Forests 2001, p. "a 46-percent increase [in average annual mortality] from the previous inventory." On this more general issue of forest health, a January 2009 report in Science (van

Mantgem et al. 2009, attached) presents a comprehensive study of western forests: a meta analysis of 76 long-term study sites from the Pacific Ocean to Colorado shows a significant increase in mortality over a large region, at a great range of elevations, with diverse rainfall, and various forest types. The study was a collaboration of the Forest Service (Pacific Northwest, Pacific Southwest, and Rocky Mountain research stations), the Geological Survey, and at least 6 university programs. It has been commented that "forest researchers need to focus on seedlings, not mortality, in these threatened ecosystems. "If there is an affordable point of intervention, a way to adaptively manage for climate change,... it may be in how we manage seedlings, not mature forests and adult trees." (cited by Pennisi, p. 447, same volume). Is there a similarly comprehensive study of the condition and trends of the Appalachian forests? Is a thorough bibliography of relevant studies available? A list of research groups involved in collaborations on these challenging research questions?

Comment II. Analysis of the values of non-timber products, resources and benefits of the GW National Forest
I will be interested to see the methodology to be used to evaluate the many non-timber products, resources and benefits of the GW National Forests. May I recommend the development of a matrix for comparing the costs and the benefits, both financial and other, of the many products, resources, and benefits of the Forest, how they have shifted in the past, and anticipated changes. While the emphasis is often on large business like the timber industry and energy extraction, analysis should also include benefits to small businesses such as tourism, environmental services such as water and carbon sequestration, and less tangible services such as the spiritual values of being in wilderness. How to balance these various benefits and demands will be a challenge in public participation

Comment III. Public participation in the development of the plan and the management of the GW National Forest. I was very impressed by the quality of participation in the public scoping, and in the organizational skills that facilitated that meeting. My recommendations for continuing this participation into the plan development and implementation are:
A. Don't stop
B. Continue to mix the diverse interests in discussions and explorations of the issues
C. Continue the public participation opportunities on into the implementation stage.

Best wishes in developing an effective, well-balanced plan, with good help from the National Forests' many supporters.

Respectfully submitted
James A. Bryan, PhD
Forest Action Research International
PO Box 30
Batesville, VA 22924
540-456-7312
jimbryan@earthlink.net

Jason Stoner
<president@more-mtb.org>

Sent by:
discocowboy@gmail.com

05/07/2010 07:59 PM

To comments-southern-georgewashington-jefferson@fs.fed.us
cc
bcc
Subject Comment on George Washington Plan Revision

May 7, 2010

Mr. Ken Landgraf
George Washington & Jefferson National Forests
5162 Valleypointe Parkway
Roanoke, VA 24019

Dear Mr. Landgraf,

On behalf of the Mid Atlantic Off Road Enthusiasts (MORE), we would like to thank the George Washington National Forest for the opportunity to comment on the Forest Management Plan Revision. We applaud the efforts of the planning staff for working through the numerous challenges that have arisen in developing this plan while working under the 1982 planning rules. We appreciate the lengths to which the planning team has gone to bring the various stakeholders to the table and to engage us in substantive discussions, leading to a better public understanding of the factors that bear upon the Forest Service's decisions.

MORE represents over 3000 mountain bikers throughout Maryland, DC and Virginia. We advocate for increased multi-user trail access and education about environmentally sound and socially responsible mountain biking. Annually our members put in close to 4000 hours of trailwork in the 32 parks we work with. We maintain over 300 miles of natural surface trails and have built over 100 miles of new sustainable trail. Club members lead hundreds of rides each year for all skill levels, host annual camping trips along with a variety of events aimed at growing the sport of mountain biking.

We would like to submit for the following recommendations for consideration:

- The local mountain bike community has been a critical partner in developing the Friends of Shenandoah Mountain agreement, and we at IMBA fully endorse the proposal. Such innovative collaboration between user groups is what we strive for on the national level. In particular, the increased protection for the area between US 250 and US 33, east of Shenandoah Mountain, preserves the backcountry experience while allowing shared use trail recreation. This includes

adjusting the Ramseys Draft Wilderness Area Boundary to allow bike access on the entire Shenandoah Mountain Trail, a critical part of the Great Eastern Mountain Bike Trail route.

- We do not support any additional wilderness beyond the Friends of Shenandoah Mountain proposal that would result in loss of trail access for bicyclists.
- We support backcountry areas, especially the 12D designation for "remote backcountry, non-motorized recreation, (which) allows for mechanized management (chainsaws and new non-motorized trails are allowed)".
- We strongly encourage the management of all Potential Wilderness Areas as Inventoried Roadless Areas (IRAs) under the 2001 Roadless Rule.
- We would like the Forest Service to recognize that the desired user experience of the mountain bike community is to ride on single track trails, loosely defined as a natural surface trail no more than 40 inches in width.
- We would like to see an increase of funding for recreational trails to reflect their benefits to the local economies.
    - Mountain bike tourists come from all over the Atlantic seaboard to the GWNF for primitive backcountry mountain biking experiences.
    - More and better trails improve quality of life, which increases the ability of local businesses to recruit high quality employees. Examples: SRI, Merck, Rossetta Stone
    - More and better trails increase property values for local residents.
- Adopt the Great Eastern Trail (GET) corridor as a shared-use trunk trail that connects the western GWNF ranger districts.
- Provide viewshed protection for National Recreation Trails (NRTs) in GWNF. Example: Wild Oak Trail
- When conducting Fire Management Operations, please restore to previous or desired condition (with Fire Management funds) any recreation facilities, including trails, damaged during fire management ops. The cost of restoration should be part of the fire management cost analysis and planning.
    - Hand-built singletrack trails have been bulldozed into eight-foot wide fire breaks with little or no restoration. Example: Hone Quarry Ridge, Big Hollow, Meadow Knob, and Shenandoah Mountain Trail.
    - Trails have a construction cost of $15,000 to $30,000 per mile.
- Close roads seasonally during wet seasons or during the freeze/thaw cycle to reduce road maintenance costs.

- Follow sustainable design principals for all new trails and roads. These include following contour alignments, average grades under 10%, and frequent grade reversals.
    - This will result in reduced maintenance costs and reduced resource impact.
    - This will increase the trails' sustainable carrying capacity, improve accessibility, and create a higher quality recreation experience.

- Continue to partner with volunteers for trail management by assisting with chainsaw certification and supporting new volunteer agreement.
- We strongly urge that there be no net loss of trails, and that the Forest Service actually increase the current total trail mileage of 1,200 miles by roughly 15 percent. This increase in trail opportunity would meet our larger goals and the desired user experience. We agree with the need remove certain inventoried trails because of resource impacts associated with unsustainable alignments and associated maintenance costs. The unplanned nature of these trails creates larger issues for the Forest Service. When a trail system meets both the desired recreational user experience and management goals, it is easier to motivate volunteer trail stewardship.
- When determining what trails to close and remove from the USFS inventory please consider the following questions. IMBA recognizes that some current trail alingments, that provide important connectivity, are unsustainable. These trails would be best relocated to sustainable alignments that maintain connectivy between improtant control points. Trails that see light use, have unsustainable alingments, and do not provide important connectivity would be viable canidates for closure.
    - Is the trail causing significant resource impact due to an unsustainable alignment?
    - Does the trail provide an important connection or a highly desirable user experience?
    - Is there a high level of volunteer maintenance preformed on the trail?
    - What is the level of visitation on the trail?

- We support an increase in novice and beginner-oriented trails on the edge of the forest to provide positive, front country trail experiences. This leaves the core of the forest for primitive recreation. Developing or relocating parking areas on the edge of the forest has the effect of reducing vehicle traffic with the forest, shortening the travel time to the forest and reducing pollution. Easier/more access to trails for recreational use means more opportunities for nearby residents to maintain a healthier lifestyle.

- We would like to see the creation of stacked loop trail systems which offer multiple loops that provide different expereinces and offer varying levels of difficulty. Typical stacked loop systems have easier loops adjecent to trailheads, and difficulty increases with the distance from the trailhead.
- We would encourage locating primary trailheads on two-lane state roads to facilitate access for visitors and volunteers, while reducing USFS road maintenance costs.
- We would like to see the creation of new trail connectors to link existing trails, thus forming larger loop opportunities.

- Specific trail recommendations:
    - Connect Bear Draft Road to Lookout Mountain Trail with a contour

alignment.
    - Relocate the northern section of the Lookout Mountain Trail onto a sustainable alignment.
    - Connect the bottom of Braley's Trail with contour alignment to Camp Todd.
    - Develop an easiest level singletrack loop trail on Prospect Knob that connects with the Blueberry Trail at a joint trailhead located on Union Springs Rd.
- Potential locations for stacked loops systems:
    - North end of Crawford Mountain – This location has a number of pre-existing roadbeds that could be used with new singletrack to create a multiple-loop system with a trailhead located just off of US 250. This would provide a trail system with excellent access from I-81, Staunton, and Charlottesville. This easy access would reduce travel on USFS maintained roads and facilitate volunteer participation in development and maintenance.

    - Narrowback, Hearthstone, Wolf Complex – This area provides an excellent opportunity to develop a stacked loop, singletrack system from an existing trail network. Potential enhancements include developing additional trails on the east side of Narrowback Mountain to create loops, formalizing existing sustainable hunting and informal trails, creating a connection to FR95 near the Wild Oak Trailhead, relocating unsustainable sections of Hearthstone Trail, creating a trail connecting Wolf Trail to the Festival Trail on Narrowback Ridge, and providing trailhead at the Wolf Trail terminus at Tillman Road. Another possible enhancement would be to develop a trail parallel to Tillman Road from the bottom of Wolf to the Wild Oak Trailhead to create additional loop opportunities. This system would build on past trail enhancements by the Shenandoah Valley Bicycle Coalition (SVBC) and the USFS. The objective would be to create multiple all singletrack loops attractive to mountain bike riders, day hikers, and trail runners, an experience that is not currently available in the North River district.
    - Riven Rock, Skidmore, Dry Run area-Work with the City of Harrisonburg to begin planning a non-motorized multi user trail that would connect Riven Rock Park to Switzer Dam that would also provide trail access to the Dry River Dam. This would help curb the existing illegal activity. The City parking area at Riven Rock could be the developed trail head for this trail and stacked loop network of singletrack in the Dry River watershed.
- Below are some examples of other venues that have developed or are developing stacked loop systems to promote mountain bike tourism and greater local visitation.
    - Forks Area Trail System: Sumter NF, USFS. This system was built in 2005-2007 and features 35 miles of trail over 6 loops for an estimated 600+ users per spring/summer/fall weekend.

    - Craig Branch and Garden Ground: New River National River, National Park Service (NPS). Construction is starting in 2011 on 30+ miles of stacked loop trails oriented toward mountian biking, trail running, and hiking.
    - Alligrippis Trails: Raystown Lake Project, Army Corps of Engineers (ACOE). These trails were constructed in 2007-2008 for a total of34 miles of trail consisting of 6 loops rated as easiest, more difficult, and most difficult. The Southern Alleghanies Development Commission economic analysis showed this trail system brings 1.2 million dollars a year into the local economy via trail based tourism.
    - Tsali: Nantahala NF, USFS. This system, constructed in the early 1990s, has 28 miles, consisting of 4 loops open to hiking, biking, and equestrian use.
- Please support the development of at least one equestrian oriented trailhead and trails system in the North River District. Slates Springs is an area already popular with equestrians that might provide a feasible location for developing a sustainable-shared use system optimized for equestrian use.

We recognize that some of these recommendations take funding, management time, and volunteer hours. IMBA and all our local members stand ready to aid the Forest Service wherever possible. We look forward to assisting your efforts in every possible way, and appreciate all your work on these issues.

Sincerely,

Jason Stoner
MORE President

BP Wind Energy

Hank Seltzer
455 2nd Street SE, Suite 400
Charlottesville, VA 22902
(434) 220-9434

May 7, 2010

USDA Forest Service
Jefferson and George Washington National Forests
Attn: Mr. Henry B. Hickerson
Acting Forest Supervisor
5162 Valleypointe Parkway
Roanoke, VA 24019-3050

Dear Mr. Hickerson:

Federal agencies are important players in the United States' continuing development of domestic, renewable energy sources. The United States Forest Service (USFS) is one of a small number of federal agencies that manage substantially large areas of public lands and, therefore, are well-positioned to make a difference in the amount of renewable energy that is built in the U.S. The USFS is one of the agencies tasked with evaluating alternative energy on the public lands it manages as part of the Energy Policy Act of 2005 (Act). Evaluating wind energy projects on USFS lands would aid the USFS in exercising its role in meeting the nation's energy needs and reducing reliance on foreign sources of energy as established in the Act. As the manager of more than 1.8 million acres of Jefferson National Forest (JNF) and George Washington National Forest (GWNF) in Virginia, West Virginia, and Kentucky, the USFS can use its expertise as a natural resource manager to help identify and assess areas of the two National Forests that are suitable for wind energy development. Just as the USFS facilitates special uses of its working forests such as timber harvesting, livestock grazing, mineral, oil, and natural gas extraction and infrastructure development, the USFS can also facilitate wind energy development in areas of the JNF and GWNF that are suitable for wind energy and compatible with land use management types prescribed in Forest Management Plans (FMP).

The March 10, 2010 Notice of Intent (NOI) in Vol. 75, no. 46 of the U.S. Federal Register requests comments on the USFS' plans to prepare an environmental impact statement (EIS) for the proposed changes to the 1993 GWNF FMP. Item no. 3 in the "Proposed Actions" list under the "Need for Change—Topic 3: Responding to Social Needs" heading states that one potential action the USFS can take to respond to changing social needs of the Forests' public resources is to "identify suitable uses for specific areas of the forest (e.g. timber production, road construction, wind energy development, prescribed fire)." According to the NOI, a range of alternatives will be considered for implementing the proposed actions identified by the USFS as having the best and most acceptable potential to address the need for changes articulated in the NOI. As a developer, owner, and operator of wind energy projects across the country (including project development interests in Virginia), BP Wind Energy (BP) suggests that USFS consider wind energy as a suitable use in its development and evaluation of alternatives for special uses in GWNF.

Wind energy is already a qualified use of National Forest system lands, per the Mining and Minerals Policy Act and Forest Service Manual 2802. In 2006 testimony before the U.S. Senate's Committee on Energy and Natural Resources, the Associate-Chief of the USFS stated that a (still unfinished) USFS policy on wind energy development "will call for the evaluation of wind energy proposals to be done at the Forest level using public comment processes due to the differing landscapes, habitats, wildlife populations, and public concerns unique to each site." BP supports this statement and

believes it should be taken into account when the EIS for the GWNF FMP revision is being developed and alternatives for special uses in GWNF are considered. The public comment and public involvement process during the last three years has generated much discussion about the appropriateness of wind energy generation in the forthcoming revised FMP for GWNF. The USFS has, in its February 2010 Management Prescription Areas draft document, identified management types within GWNF that would not be suitable for wind energy development. BP suggests the USFS consider areas within GWNF that are suitable for wind energy development based on compatible management prescriptions or current land conditions, e.g. already-fragmented areas, deforested areas as a result of invasive species, or areas already deemed suitable for timber production, natural gas extraction, etc. Such information might help guide potential wind energy developers or applicants to areas within GWNF where the USFS has already deemed wind energy a compatible use; thus, saving the USFS time and resources that would otherwise be expended on evaluating wind energy projects on lands already off-limits to consideration for wind energy.

BP agrees with the comment in the April 12, 2010 public comment summary document (http://www.fs.fed.us/r8/gwj/forestplan/revision/2010-docs/apr10/April%202010%20Workshops%20Summary%20of%20Comments.pdf) that a full assessment of wind energy should be made when developing the EIS for the revised GWNF FMP. This assessment should include consideration of the benefits that wind energy in GWNF could provide, including additional revenue for the USFS, and a source of renewable, emission-free energy that does not use water or finite natural resources as a fuel source, and is compatible with the notion of a working forest managed to accommodate various uses. BP supports the USFS' current process of evaluating individual applications or proposals for wind energy on a case-by-case basis, since each potential proposal will involve different landscapes, potentially affected wildlife, surrounding management types, singular ecosystems, etc. However, selecting broad-scale management prescription areas as incompatible with wind energy development would inappropriately preclude all wind energy development by virtue of the breadth of the management prescription. For instance, any determination that all ridge top areas within GWNF are unsuitable for wind energy development would, in effect, stifle wind energy development in GWNF entirely, since ridge tops are typically the only viable areas for wind energy generation on land in Virginia. A better alternative might be for the USFS to identify ridge top areas within the GWNF (with compatible management prescriptions) that are suitable for wind energy development.

In sum, responsibly-sited wind energy is a viable source of electricity generation that is supported in Virginia and nation-wide. Wind energy is an effective way to meet the mandates of Renewable Portfolio Standards adopted by some 30 states in the U.S. Current discussions at the federal level about present and future domestic energy needs have and will continue to feature wind energy as an essential way of meeting future energy demands with non-polluting, renewable technologies. As the USFS considers both the positive and negative effects of wind energy in its formulation of suggested alternatives for the EIS on the revision to the 1993 GWNF FMP, BP Wind Energy is grateful for the opportunity to comment at this point in the proceedings, and respectfully requests that the USFS take into account the points raised in this letter.

Sincerely,

Hank Seltzer
Environmental Specialist
BP Wind Energy
Charlottesville, Virginia
Hank.Seltzer@bp.com

May 7, 2010

To: Maureen Hyzer, Forest Supervisor
George Washington National Forest
Comments-southern-georgewashingto-jefferson@fs.fed.us

From: J. Curtis Bradley

Re: Comment on George Washington Plan Revision

I reside in Vienna, VA. I offer the following comment on the pending George Washington National Forest (GWNF) Plan Revision.

As a resident of Northern Virginia, whose drinking water comes from the Potomac River, I benefit from the steps to be taken to improve water quality in the watersheds of GWNF, if less directly than those living in the towns and villages in closer proximity. I have read the many resolutions submitted by those communities, as well as interested organizations, urging that all reasonable steps be taken to insure optimum water quality, and I endorse those positions.

I frequently visit the GWNF, particularly the areas of Elizabeth Furnace, where I hike, fish and swim in Passage Creek, and Trout Pond. As a regular user of GWNF, I have a vested interest in its health and sustainability.

The Forest Plan should be weighted heavily in favor of environmentally sound and sustainable practices. Commercial interests, such as logging, should be considered but only when and to the extent that they are necessary for and contribute positively to the environmental health of the Forest.

For ease of reference, I attach the Mission Statement of the US Forest Service which is instructive in how the Plan under consideration should be developed. The Mission with respect to land under the Forest Service's domain is " --- to sustain the health, diversity, and productivity of --- forests --- to meet the needs of present and future generations."

In explaining how to care for the land and serve people to promote the Mission, eight (8) points are enumerated, I would argue in descending order of importance. The first, and most important, point is "[A]vocating a conservation ethic --- ." That should be the overriding emphasis of the Plan. The sixth point in order of importance is " --- to promote rural economic development ---" which would encompass commercial activity, such as logging. The relative positions acknowledge that multiple uses should and will be made of the forests, but that the Forest Service cannot lose sight that its primary purpose is to maintain the environmental integrity of the properties it manages.

About Us - Mission

Mission, Motto, Vision, and Guiding Principles

Mission

The mission of the USDA Forest Service is to sustain the health, diversity, and productivity of the Nation's forests and grasslands to meet the needs of present and future generations.

Motto: Caring for the Land and Serving People

The phrase, "CARING FOR THE LAND AND SERVING PEOPLE," captures the Forest Service mission. As set forth in law, the mission is to achieve quality land management under the sustainable multiple-use management concept to meet the diverse needs of people: It includes:

- Advocating a conservation ethic in promoting the health, productivity, diversity, and beauty of forests and associated lands.
- Listening to people and responding to their diverse needs in making decisions.
- Protecting and managing the National Forests and Grasslands so they best demonstrate the sustainable multiple-use management concept.
  Providing technical and financial assistance to State and private forest landowners, encouraging them to practice good stewardship and quality land management in meeting their specific objectives.
- Providing technical and financial assistance to cities and communities to improve their natural environment by planting trees and caring for their forests.
- Providing international technical assistance and scientific exchanges to sustain and enhance global resources and to encourage quality land management.
- Helping States and communities to wisely use the forests to promote rural economic development and a quality rural environment.
- Developing and providing scientific and technical knowledge aimed at improving our capability to protect, manage, and use forests and rangelands.
- Providing work, training, and education to the unemployed, underemployed, elderly, youth, and disadvantaged in pursuit of our mission.

Vision

- We are recognized nationally and internationally as a leader in caring for the land and serving people.
- We are a multicultural and diverse organization.
- Employees work in a caring and nurturing environment where leadership is shared.
- All employees are respected, accepted, and appreciated for their unique and important contribution to the mission.
- The work is interesting, challenging, rewarding, and fun -- more than just a job!
- We are an efficient and productive organization that excels in achieving its mission.
- Responsibility and accountability for excellence are shared by employees and partners.
- The American people can count on the Forest Service to perform.

Guiding Principles

To realize our mission and vision, we follow these 13 guiding principles:

- We use an ecological approach to the multiple-use management of the National Forests and Grasslands.
- We use the best scientific knowledge in making decisions and select the most appropriate technologies in the management of resources.
- We are good neighbors who respect private property rights.
- We strive for quality and excellence in everything we do and are sensitive to the effects of our decisions on people and resources.
- We strive to meet the needs of our customers in fair, friendly, and open ways.
- We form partnerships to achieve shared goals.
- We promote grassroots participation in our decisions and activities.
- We value and trust one another and share leadership.
- We value a multicultural organization as essential to our success.
- We maintain high professional and ethical standards.
- We are responsible and accountable for what we do.
- We recognize and accept that some conflict is natural and we strive to deal with it professionally.
- We follow laws, regulations, executive direction, and congressional intent.

Maureen Hyzer, Forest Supervisor

George Washington National Forest

5162 Valleypointe Parkway

Roanoke, VA 24019-3050

SENT VIA EMAIL

May 7, 2010

As the National Forest Service develops management plan alternatives for the George Washington National Forest please include these important issues as areas of focus: protect sensitive areas from Marcellus shale natural gas drilling, protect mountain ridges from industrial wind energy development, and provide for comprehensively managing drinking water resources.

PROTECT GROUND AND SURFACE WATER FROM MARCELLUS SHALE NATURAL GAS DRILLING

The GW National Forest lies on top of Marcellus Shale, a promising source of natural gas, yet there are not sufficient federal regulations to protect water quality from the impacts of a gas mining process called hydraulic fracturing. The new Forest Plan should as a minimum: prohibit any natural gas leasing or drilling within the GW National Forest that contains watersheds for the public reservoirs, rivers or creeks that provide public drinking water in the Shenandoah Valley; and impose a moratorium on natural gas leases elsewhere in the forest until the U.S. Environmental Protection Agency completes its national study and develops regulations governing the water quality and public health impacts of Marcellus Shale natural gas drilling.

PROTECT SENSITIVE MOUNTAIN RIDGES FROM INDUSTRIAL WIND ENERGY DEVELOPMENT

The forest's public lands are not the right place for commercial wind power projects due to forest fragmentation, wildlife impacts, water quality impacts, and degradation of viewsheds, and impingement on recreational uses.

PROVIDE FOR COMPREHENSIVE MANAGEMENT OF DRINKING WATER RESOURCES

The GW National Forest supplies drinking water to a quarter of a million Valley residents. Forty local governments and civic groups adopted resolutions in the past two years calling on the Forest Service to provide comprehensive protection of drinking water resources in the George Washington National Forest.

Sincerely,
Kim Sandum
Community Alliance for Preservation
www.preserverockingham.org

Peter F. and Faye C. Cooper
359 Sherwood Avenue
Staunton, VA 24401
540.885.3959
fcooper2@verizon.net

May 6, 2010

Ms. Maureen Hyzer, Forest Supervisor
George Washington National Forest
5162 Valleypointe Parkway
Roanoke, VA 24019-3050
Email address: comments-southern-georgewashington-jefferson@fs.fed.us.

Dear Ms. Hyzer:

We are writing to comment on the George Washington National Forest Land Use Plan. As frequent recreational users of the GWNF (hiking, biking, fishing, birding, camping), we are especially appreciated of the ecological values and services that the GWNF provides for millions of people who live within a few hour's drive of the national forest. The GWNF Plan must emphasize protecting these natural and recreational values above all other uses (timber, minerals, oil, gas, etc.) because private lands can supply these products.

We specifically request that the revised Plan address the following issues:

- **Natural Habitat Management.** The Plan should allow most of the GWNF to mature as a native. Old growth should be encouraged and supported through forest management practices, which would also support a carbon sequestration strategy against global warming.

- **Riparian Area Management, Water Quality and Aquatic Habitats.** Surface waters running through the GWNF provide drinking water for numerous localities, providing water for thousands of residents of western Virginia. Protecting all creeks from headwaters to where the creeks exit GWNF land should be one of the Plan's highest priorities, and identifying and describing all watershed areas within the GWNF should be part of the Plan.

- **Oil and Gas extraction. BAN GAS HYDROFRACKING** everywhere in the Forest because of the danger to water quality is extremely high, as demonstrated by the experiences of many fracked communities in NY, PA, CO, and TX. Also, there is ample supply of private land available for fracking.

- **Continue to ban Industrial and Wind Turbines** everywhere in the Forest because of impacts on forest fragmentation and habitat destruction. Again, there are many private properties where this industry may locate.

- **More land for Wilderness Designation.** All the tracts identified in the 2009 *VA Mountain Treasures* book should be recommended for wilderness designation. These are areas which compliment and support the rich natural systems that are irreplaceable.

Thank you for your consideration of these suggestions.

Sincerely,

Peter and Faye Cooper

COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION
203 Governor Street, Suite 326
Richmond, Virginia 23219-2010
(804) 786-2556 FAX (804) 371-7899

May 7, 2010

Ms. Karen Overcash
Planning Team Leader
George Washington Plan Revision
George Washington & Jefferson National Forests
5162 Valleypointe Parkway
Roanoke, VA 24019

Re: Comment on George Washington Plan Revision

Dear Mrs. Overcash:

The Department of Conservation and Recreation's (DCR's) involvement is in part to provide technical assistance and recreational survey information from the Virginia Outdoors Plan (VOP); additionally, we feel that involvement in the revision for the George Washington Plan process is an important aspect of our work.

We believe that being a part of your process will assure a unified and seamless provision of recreational opportunities to Virginia's citizens and visitors. We offer the following general comments based on the 2007 *Virginia Outdoors Plan*.

- Insure and provide additional water access. Access to water is the number one need for Virginians. The number two need is additional trials, including multi-use and long distance.
- Recreational participation for the top ten activities in the mountain region of the state are [in order of frequency]: walking, swimming, jogging, driving for pleasure, fishing, hunting, playground use, visiting natural areas, and camping.
- Establish a strong interface with adjacent communities to protect the integrity of the park experience -- including foreground and mid-ground views and vistas.
- Make stronger connections, both physically and interpretively, to the regionally significant trails in the area for all modes of transportation including bicycling, hiking, and horseback riding.
- Maintain and enhance water access, especially as it relates to the Chesapeake Bay Tributary tributaries, Gateways Program, and the Potomac River Water Trail. Boating is a key component of the park and should be maintained as a high recreational priority.

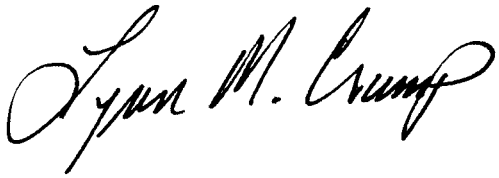
- Discuss implications, connections, and impacts to crossing adjacent scenic rivers, trails and byways.
- Enhance the visual to reflect the different periods and areas of the forest so they can be interpreted.
- Incorporate the Healthy Waters Program, a new ecological approach to identifying and protecting healthy waters in Virginia, in development of management techniques. http://www.dcr.virginia.gov/soil_and_water/healthy_waters/index.shtml

As you continue with your planning process, we look forward to being involved with the management planning and providing project appropriate technical assistance to protect the natural, recreational, cultural, and historic resources for current and future generations.

Feel free to contact us with any question. Please add our representative, Lynn Crump, 203 Governor Street, Suite 326, Richmond, VA 23219, lynn.crump@dcr.state.va.us, to your mailing list.

Additional comments are attached. Thank you so much for the opportunity to be involved in this planning endeavor.

Sincerely,



Lynn M. Crump
Environmental Program Planner

cc: Danette Poole, Division Director, Planning and Recreation Resources

May 7, 2010

Mr. Ken Landgraf
George Washington & Jefferson National Forests
5162 Valleypointe Parkway
Roanoke, VA 24019

Dear Mr. Landgraf,

On behalf of the International Mountain Bicycling Association (IMBA), we would like to thank the George Washington National Forest for the opportunity to comment on the Forest Management Plan Revision. We applaud the efforts of the planning staff for working through the numerous challenges that have arisen in developing this plan while working under the 1982 planning rules. We appreciate the lengths to which the planning team has gone to bring the various stakeholders to the table and to engage us in substantive discussions, leading to a better public understanding of the factors that bear upon the Forest Service's decisions.

IMBA represents 80,000 supporters nationwide with 750 affiliated bike clubs. In the Mid Atlantic Region, an epicenter for the mountain bike community, IMBA has 47 affiliated clubs and more than 5,000 members. Nationally, IMBA members conduct more than one million hours of volunteer service annually helping repair, build, and advocate for environmentally sound, sustainable trails. Our clubs help promote trails tourism, get children on bicycles, and are fervent open space and land protection supporters. IMBA's Memorandum of Understanding with the US Forest Service has created a valuable dialogue that has shaped the mountain bike experience well beyond the Federal forest boundaries.

We would like to submit for the following recommendations for consideration:

- The local mountain bike community has been a critical partner in developing the Friends of Shenandoah Mountain agreement, and we at IMBA fully endorse the proposal. Such innovative collaboration between user groups is what we strive for on the national level. In particular, the increased protection for the area between US 250 and US 33, east of Shenandoah Mountain, preserves the backcountry experience while allowing shared use trail recreation. This includes adjusting the Ramseys Draft Wilderness Area Boundary to

allow bike access on the entire Shenandoah Mountain Trail, a critical part of the Great Eastern Mountain Bike Trail route.

- We do not support any additional wilderness beyond the Friends of Shenandoah Mountain proposal that would result in loss of trail access for bicyclists.
- We support backcountry areas, especially the 12D designation for "remote backcountry, non-motorized recreation, (which) allows for mechanized management (chainsaws and new non-motorized trails are allowed)".
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    - Mountain bike tourists come from all over the Atlantic seaboard to the GWNF for primitive backcountry mountain biking experiences.
    - More and better trails improve quality of life, which increases the ability of local businesses to recruit high quality employees. Examples: SRI, Merck, Rossetta Stone
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- Adopt the Great Eastern Trail (GET) corridor as a shared-use trunk trail that connects the western GWNF ranger districts.
- Provide viewshed protection for National Recreation Trails (NRTs) in GWNF. Example: Wild Oak Trail
- When conducting Fire Management Operations, please restore to previous or desired condition (with Fire Management funds) any recreation facilities, including trails, damaged during fire management ops. The cost of restoration should be part of the fire management cost analysis and planning.
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- Close roads seasonally during wet seasons or during the freeze/thaw cycle to reduce road maintenance costs.

- Follow sustainable design principals for all new trails and roads. These include following contour alignments, average grades under 10%, and frequent grade reversals.
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- Continue to partner with volunteers for trail management by assisting with chainsaw certification and supporting new volunteer agreement.
- We strongly urge that there be no net loss of trails, and that the Forest Service actually increase the current total trail mileage of 1,200 miles by roughly 15 percent. This increase in trail opportunity would meet our larger goals and the desired user experience. We agree with the need remove certain inventoried trails because of resource impacts associated with unsustainable alignments and associated maintenance costs. The unplanned nature of these trails creates larger issues for the Forest Service. When a trail system meets both the desired recreational user experience and management goals, it is easier to motivate volunteer trail stewardship.
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    - Is the trail causing significant resource impact due to an unsustainable alignment?
    - Does the trail provide an important connection or a highly desirable user experience?
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    - What is the level of visitation on the trail?

- We support an increase in novice and beginner-oriented trails on the edge of the forest to provide positive, front country trail experiences. This leaves the core of the forest for primitive recreation. Developing or relocating parking areas on the edge of the forest has the effect of reducing vehicle traffic with the forest, shortening the travel time to the forest and reducing pollution. Easier/more access to trails for recreational use means more opportunities for nearby residents to maintain a healthier lifestyle.

- We would like to see the creation of stacked loop trail systems which offer multiple loops that provide different expereinces and offer varying levels of difficulty. Typical stacked loop systems have easier loops adjecent to trailheads, and difficulty increases with the distance from the trailhead.
- We would encourage locating primary trailheads on two-lane state roads to facilitate access for visitors and volunteers, while reducing USFS road maintenance costs.
- We would like to see the creation of new trail connectors to link existing trails, thus forming larger loop opportunities.

- Specific trail recommendations:
    - Connect Bear Draft Road to Lookout Mountain Trail with a contour alignment.
    - Relocate the northern section of the Lookout Mountain Trail onto a sustainable alignment.
    - Connect the bottom of Braley's Trail with contour alignment to Camp Todd.
    - Develop an easiest level singletrack loop trail on Prospect Knob that connects with the Blueberry Trail at a joint trailhead located on Union Springs Rd.

- Potential locations for stacked loops systems:
    - North end of Crawford Mountain – This location has a number of pre-existing roadbeds that could be used with new singletrack to create a multiple-loop system with a trailhead located just off of US 250. This would provide a trail system with excellent access from I-81, Staunton, and Charlottesville. This easy access would reduce travel on USFS maintained roads and facilitate volunteer participation in development and maintenance.

    - Narrowback, Hearthstone, Wolf Complex – This area provides an excellent opportunity to develop a stacked loop, singletrack system from an existing trail network. Potential enhancements include developing additional trails on the east side of Narrowback Mountain to create loops, formalizing existing sustainable hunting and informal trails, creating a connection to FR95 near the Wild Oak Trailhead, relocating unsustainable sections of Hearthstone Trail, creating a trail connecting Wolf Trail to the Festival Trail on Narrowback Ridge, and providing trailhead at the Wolf Trail terminus at Tillman Road. Another possible enhancement would be to develop a trail parallel to Tillman Road from the bottom of Wolf to the Wild Oak Trailhead to create additional loop opportunities.

This system would build on past trail enhancements by the Shenandoah Valley Bicycle Coalition (SVBC) and the USFS. The objective would be to create multiple all singletrack loops attractive to mountain bike riders, day hikers, and trail runners, an experience that is not currently available in the North River district.

- Riven Rock, Skidmore, Dry Run area-Work with the City of Harrisonburg to begin planning a non-motorized multi user trail that would connect Riven Rock Park to Switzer Dam that would also provide trail access to the Dry River Dam. This would help curb the existing illegal activity. The City parking area at Riven Rock could be the developed trail head for this trail and stacked loop network of singletrack in the Dry River watershed.

- Below are some examples of other venues that have developed or are developing stacked loop systems to promote mountain bike tourism and greater local visitation.

  - Forks Area Trail System: Sumter NF, USFS. This system was built in 2005-2007 and features 35 miles of trail over 6 loops for an estimated 600+ users per spring/summer/fall weekend.

  - Craig Branch and Garden Ground: New River National River, National Park Service (NPS). Construction is starting in 2011 on 30+ miles of stacked loop trails oriented toward mountian biking, trail running, and hiking.

  - Alligrippis Trails: Raystown Lake Project, Army Corps of Engineers (ACOE). These trails were constructed in 2007-2008 for a total of34 miles of trail consisting of 6 loops rated as easiest, more difficult, and most difficult. The Southern Alleghanies Development Commission economic analysis showed this trail system brings 1.2 million dollars a year into the local economy via trail based tourism.

  - Tsali: Nantahala NF, USFS. This system, constructed in the early 1990s, has 28 miles, consisting of 4 loops open to hiking, biking, and equestrian use.

- Please support the development of at least one equestrian oriented trailhead and trails system in the North River District. Slates Springs is an area already popular with equestrians that might provide a feasible location for developing a sustainable-shared use system optimized for equestrian use.

We recognize that some of these recommendations take funding, management time, and volunteer hours. IMBA and all our local members stand ready to aid the Forest Service wherever possible. We look forward to assisting your efforts in every possible way, and appreciate all your work on these issues.

Sincerely,

Frank Maguire
IMBA Regional Director, Mid-Atlantic

steven krichbaum
<lokitoad@gmail.com>
05/07/2010 08:42 PM

To comments-southern-georgewashington-jefferson@fs.fed.us
cc
bcc
Subject GWNF Plan revision 3

the body of the email below is the same comment previously sent as an attached word doc (#1)

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May 6, 2010

CONSERVATION ALTERNATIVE for the REVISED GWNF PLAN - STANDARDS, GUIDELINES, DFCs, OBJECTIVES, GOALS; SIGNIFICANT ISSUES for EIS ANALYSIS; and NOI COMMENTS

For additional explanatory and supporting material (including literature citations) for the alternative Plan direction discussed/offered below, see the concomitant submission entitled "Conservation Alternative for the George Washington National Forest Plan Revision 2010" (incorporated by reference into the following comments).

This submission is made to clearly assist the agency both with issues that need to be identified and with an alternative(s) that need to be developed and analysed in detail. Further, it may be that adoption of this proposed Conservation Alternative would come nearest to maximizing net public benefits.

Planning Issues - NOI
The GWNF planners presented an extreme paucity of "issues" in the NOI. The NOI presented only three "need for change topics" to which the FS responded with proposed actions. That after all these years of so-called "public input" this paltry showing is the only issues the FS could identify is troubling to say the least. It appears the agency is attempting to improperly and severely skew and bias the planning process from the get go. There are many additional issues that need to be included so that a broad range of alternatives can be formulated and a proper environmental analysis conducted in the EIS (see this submission and previously submitted comments of 2008-2009, incorporated by reference).

In addition to the issues identified in this submission and previous comments (and their incorporated documents), pertinent issues include: the 12 issues derived from the Southern Appalachian Assessment (SAA) identified in the NOI for the JNF Plan revision; the specific issues identified for the JNF Plan revision that were in addition to those common to the other Southern Appalachian Forests (other than the issue regarding management of Mt. Rogers); issues identified in the draft Analysis of the Management Situation (AMS); issues identified for the revision that resulted in the 1993 GWNF Plan (see GWNF FEIS 1 - 3-6).

Consistency with the JNF and other Southern Appalachian Forest Plans is neither necessary nor desirable. Although in some ways an improvement, various standards, guidelines, and allocations in the revised JNF Plan are in many ways significantly weaker and more harmful than even those in the current GWNF Plan. The current Plans for the JNF and other Southern Appalachian NFs are significantly flawed. There is no good reason for bringing the revised GWNF Plan down to their level. Instead, we can and should develop the best Plan we can which can then serve as a target/example for those other Forests to amend their Plans into conformity with.

The NOI states the agency is soliciting "[c]omments on the need for change, proposed actions, issues and preliminary alternatives".
It is not clear what the agency means by "proposed action". If by proposed action you mean "revising the Forest Plan", then the simple comment is: Yes, it needs revision. If by proposed action you mean the already formulated draft Plan, then the comment is: No, this should not be implemented as it fails to address important issues, was formulated under improper regulations, and furthermore is destructive, unreasonable, inadequate, improper, arbitrary, capricious, and/or illegal.
The Forest Service appears to be leaping to a conclusion about a "preferred" alternative before scoping has even taken place. The amount of material already formulated makes it clear that the FS is already heavily invested in this Draft Plan found on the GWNF website. The concern is that the bureaucratic inertia associated with this vested interest will serve to significantly hamper the full and fair development and consideration of other alternatives as well as significantly constrain the identification and analyses of significant issues.
The NOI is significantly flawed and improper. At this initial stage the FS should have simply asked the public to identify the significant issues and alternatives for management direction that address those significant issues. Instead, the FS is asking us to comment on "potential wilderness area" evaluations, a document that describes uses that are "suitable" for various parts of the GWNF, and on an arbitrary and capricious draft Plan that jumps the gun and fails to adequately, if at all, address many significant issues. And uses that are "suitable" for various parts of the GWNF will vary according to the alternative that is formulated and different alternatives should have different levels of wilderness recommendations.

The Forest Service is now even proposing to increase the lands available as "suitable" for logging to 500,000 acres. The FS planners are proposing to make an amount of area "suitable" for logging on the GWNF that is almost DOUBLE of what they had first proposed almost 20 years ago. Further compounding the harm, the FS is also now proposing to lump Management Areas (e.g., 14, 15, 16) together.
After all the decades of controversy regarding logging on the National Forests, these proposals show the GW planners to be clearly and dangerously out of touch with the public (the public that is who are not special interests such as logging companies or pulp mills).

Under the provisions of the 1982 NFMA planning rule, the Forest must prepare an AMS. The regulations specify the minimum content of that document: "(e) Analysis of the management situation. The analysis of the management situation is a determination of the ability of the planning area covered by the forest plan to supply goods and services in response to society's demands. The primary purpose of this analysis

is to provide a basis for formulating a broad range of reasonable alternatives. The analysis may examine the capability of the unit to supply outputs both with and without legal and other requirements. As a minimum, the analysis of the management situation shall include the following: . . .”

On multiple occasions I previously submitted detailed comments on the draft CER and other Plan revision issues (all 2008-2009 comments incorporated by reference). Subsequent to and during submission of those comments the GWNF staff slightly updated that draft CER. What appears now as a Draft Need for Change - AMS document is nearly identical to the draft CER that was created under the 2005 and 2008 planning rules. Due to its failure to adequately address numerous concerns, issues, and conditions on the Forest (see previously submitted comments of 2008-2009 dealing with the DCER), this document does little to “provide a basis for formulating a broad range of reasonable alternatives.”

This draft document that the Forest has now issued for comment under the NOI does not comply with the analyses required under the 1982 regulations. The FS must prepare an AMS with the required analyses. This should be resubmitted to the public for comment prior to the draft EIS as was done during the JNF Plan revision. This is very important as a “primary purpose of this analysis is to provide a basis for formulating a broad range of reasonable alternatives.” A range which is absent from the NOI.

The purpose of a NOI is to begin the public scoping process and to notify the public about scoping meetings. So, while it is somewhat premature at this stage to present alternatives for review and comment, one thing is for certain: The alternatives presented in the NOI are extremely constricted and fail to respond positively to numerous significant issues/concerns/opportunities the public has brought/ is bringing to the agency’s attention.

The 1982 regulations are clear on the requirements for formulating alternatives:

“(f) Formulation of alternatives. The interdisciplinary team shall formulate a broad range of reasonable alternatives according to NEPA procedures. The primary goal in formulating alternatives, besides complying with NEPA procedures, is to provide an adequate basis for identifying the alternative that comes nearest to maximizing net public benefits, consistent with the resource integration and management requirements of Secs. 219.13 through 219.27 . . .”

For the planning process to legitimately proceed, it is fundamental that a proper range of alternatives is correctly formulated. A broad range of alternatives is required to respond to issues, concerns, and resource opportunities (ICOs). Until the ICOs have been fully determined, it is unknown how many alternatives this will take. However, over twenty years ago the FS Chief remanded the first revision of the 1986 GWNF Plan because of an inadequate range of alternatives. I sincerely hope you do not force the public to wade through such an administrative quagmire yet again.

Access for Persons with Disabilities

The FS investigates/evaluates having an interpretive and wheelchair access trail like Lion’s Tale (Lee RD) on every Ranger District and implements such through the revised Plan.

Acidic Deposition/ Soil and Site Degradation
The FS fully and fairly considers and discloses effects of acid deposition on soil productivity, in conjunction with effects of removal of tree biomass (boles) from logging sites, and the affects of these direct, indirect, and cumulative impacts upon nutrient depletion (e.g., calcium), long-term productivity and sustainability, and sustained yield. See Gasper, D.C. 1997 and Rentch, J.S. 2006.

Air
The Forest must make a conformity determination prior to implementing projects affecting air quality within areas designated as "nonattainment" or "maintenance". Through guidelines and Standards, the revised Plan ensures that this situation (viz., failure to make conformity determinations) does not continue on the Forest.

The revised Plan designates new Class 1 air quality areas.

ATVs
The FS fully examines and evaluates the option of ridding the GWNF of ATV playgrounds.

The Peters Mill Run ATV is significantly pulled back and rerouted far from Peters Mill Run, a special biological area.

The Archer area on Great North Mountain in Augusta County is not suitable for ATV use. The revised Plan drops this area from consideration.

Biomass
Under the revised Plan, the entire GWNF is "not suitable" for logging to provide fuels for biomass electricity incinerators.

Carbon Sequestration
To address this issue of ecological sustainability and forest health, the revised Plan implements a curtailment or significant reduction (e.g., 1 timber sale/year of no more than 125 acres of logging/year) of logging on the GWNF.

Climate Change
In response to ongoing and potential climate change a priority goal/objective/desired condition for the revised Plan is to restore and maintain broad elevational core habitat and corridors throughout the Forest. Identification and mapping of patches and corridors of mature and old-growth forest (contiguous forest containing "core" conditions of mature and/or old-growth forest supplying expansive elevational gradients and anthropogenically unbroken/unfragmented physical links between relatively large patches containing "core" conditions of mature and/or old-growth forest) is accomplished. The retention and restoration of full altitudinal gradients is of crucial importance in order to accommodate faunal and floral population/community shifts upslope to cooler conditions in response to climate change (Graham, R.W. 1988). In the revised Plan, clear and explicit prescriptions/objectives/guidelines/standards provide for

this.

These cores/corridors are considered not suitable for logging, road building, drilling, mining, wind turbines, or development. They are priority areas for watershed restoration activities (e.g., decommissioning, recontouring, and revegetating of selected roads). In other words, we ensure that there is no loss of or degradation of habitat within the broad elevational "corridors".

Cultural Resources

Cultural resources, both prehistoric and historic sites, are strictly protected under the revised Plan. In addition, the revised Plan implements systematic surveys of the entire Forest in order to discover new cultural resources.

Fire

The problem is the FS' use of a "natural historic range of vegetation and fuel composition" and "historic reference conditions" that are an artificial baseline that resulted from intense and widespread human alteration of forest conditions ("1730s to 1900s" - DCER).

The FS must analyze increased/expanded WFU as an alternative to spending tax dollars on prescribed fires.
The FS must clearly define and disclose how WUI areas are determined.
WUI areas must be clearly disclosed on a map.
The revised Plan contains objectives, guidelines, desired conditions, and standards that explicitly focus and target the great majority of prescribed fires on restoring the Forest's yellow pine communities.

Any burning should be confined to specific sites where it is indubitably ecologically needed in order to sustain the natural community there, e.g., fire-dependent plant communities (it is not clear that all "yellow pine communities" necessarily qualify). Or limited-scale precise areas where it is appropriate to benefit rare species, such as at dry scrub pine – oak - heath communities with Variable Sedge (Carex polymorpha).
The revised Plan focuses prescribed burns on the small sites and specific communities that actually need them.
If full and fair analyses indicate fires are needed, the revised Plan allows some lightning ignitions to burn more acreage on the Forest.
Under the Standards and guidelines in the revised Plan, fire control lines are not fabricated with dozers except in an emergency situation where necessary to save human life.

Perimeter and/or interior burns kill wildlife of public interest (see Strohmaier, D.J. 2000). This controversial issue needs to be explicitly and fully addressed in the EIS and revised Plan.

Wildfires are exacerbated and/or more prevalent due to the direct and indirect effects of roads and logging (USDA FS 2000a). The analysis of alternatives for the GWNF Plan must fully and fairly evaluate, compare, and disclose these impacts.

The revised Plan/EIS precisely disclose which species and communities the agency considers to be "fire dependant" and the rationale/scientific support for this finding.

Anthropogenic Habitat & Forest

Fragmentation/Fracturization/Perforation - Habitat Loss - Edge Effects

Edge effects and fracturization/fragmentation are "forest health" and ecological sustainability issues. The FS has thus far failed to recognize the significance of the internal fragmentation (Harris, L. and G. Silva-Lopez 1992) from roads, logging, utility corridors, and other openings that perforate the Forest. The edge effects from these perforations result in what amounts to habitat loss for various species of flora and fauna (Harris, L.D. et al. 1996).

The failure by the GWNF planners thus far to sufficiently deal with harmful fragmentation and edge effects on the Forest (see DCER and DLMP) is particularly unreasonable given that numerous researchers and decades of studies point to the significance of such impacts. Habitat fragmentation or edge effects not only affect birds, but also amphibians, reptiles, herbaceous species, invertebrates, etc.; see, e.g., Ness, J.H. and D.F. Morin 2008, Matlack, G. 1994b, Graham, M.R. 2007, and Flint, W. 2004.

Roads, utility corridors, openings and other developments, and the logging projects (which usually include some type of road construction and/or reconstruction) implemented by the Forest Service serve to increase edge and facilitate ingress and impacts from meso-predators such as Raccoons, Skunks, and Opossums (see "subsidized predators" in Mitchell, J. and M. Klemens 2000). These species are known to predate Wood Turtles and other taxa (Mitchell, J.C. 1994b).

Of concern are the sustained yield and sustainability of unfragmented/ unfractured/ unperforated habitat [or whatever the FS chooses to label this] for various taxa (for examples, see those mentioned in above discussion) and unfragmented/unfractured/unperforated forest conditions. Of concern are the direct, indirect, and cumulative impacts of Forest management activities that diminish the sustained yield and sustainability of unfragmented/unfractured/unperforated habitat for various taxa and unfragmented/unfractured forest conditions. Of concern are the direct, indirect, and cumulative impacts of Forest management activities that diminish the sustained yield of "interior" and/or "remote" habitat (from anthropogenic edge effects resulting from mechanisms such as logging or roads) for various taxa (e.g., warblers, herbaceous plants, carnivorous mammals). See also discussion under "Ovenbirds" below. Of concern are the direct, indirect, and cumulative impacts of Forest management activities that result in harmful edge effects.

In addition to impacts to "interior" species, of concern are the direct, indirect, and cumulative impacts of Forest management activities upon area-sensitive species and "remote" species (e.g., Least Weasel, Northern Saw-whet Owl, Black-billed Cuckoo, Swainsons Warbler, Cerulean Warbler, Wood Turtle, Timber Rattlesnake, Jefferson Salamander, Scarlet Tanager, and Black-throated Blue Warbler).

We are concerned that the effects of management are such that the compositional, structural, and functional diversity of the Forest's ecosystems are NOT "at least as great as that which would be expected in a natural forest" (in violation of the NFMA).

Ecological sustainability/diversity and anthropogenic habitat and forest fragmentation/fracturization/perforation (including edge effects) must be fully and fairly considered and analysed in the Plan revision analysis/EIS. In Krichbaum v. Kelley, 844 F. Supp. 1107, 1116 (W.D. Va. 1994) the court held that general issues of forest fragmentation and edge effects were more appropriately addressed at the plan-level stage rather than at the project-level stage (regarding

a preliminary injunction to stop a site-specific timber sale project).

The FS revision planners must in some way identify, quantify, measure, analyse, and map the amounts and spatial distribution of the logging effect zone on the Forest. For example, use all the areas that have been logged in the last 80 years (the general age where forest is said to reach maturity) on the Forest (particularly the even-age sites and group selection cuts) and the area within 100 meters extending out from the borders (edges) of all these sites and evaluate and analyse the amount and distribution of this pattern of fragmented/fractured mature forest.
This analysis must also be then synthesized with the amounts and distribution of the fragmentation/fracturization (including edge effects) resulting from the road system and other non-forest openings (e.g., utility corridors, developed sites, and maintained openings) to get a picture of the overall fragmentation/fracturization/habitat loss taking place on the GWNF.
Researchers found that even a narrow edge effect zone (e.g., 35-74 meters) means that a large area of National Forest can be degraded or unsuitable habitat for species such as salamanders or herbaceous flora (Semlitsch, R.D. et al. 2007, and Matlack, G.R. 1994; see also Graham, M.R. 2007, Flint, W. 2004, and Flamm, B.R. 1990). The extent and degree to which roads and other perforations serve to act as barriers, alter the permeability of the landscape, inflict deleterious edge effects, and/or reduce/degrade accessible habitat must be fully considered, disclosed, analysed, and evaluated.
In the analysis of edge effects, the Forest Service should use a range of various spacial scales (e.g., 10-, 30-, 60-, 100-, 200-, 300-, 500-, 800-meters) and temporal periods (e.g., 10-, 30-, 50-, 70-, 100-years) in order to assess the quality and quantity of edge effects on the Forest; this will reflect/represent varying edge penetration distances and the differing sensitivity of different taxa. See Didham, R.K. 2007, Fletcher 2006, Zheng & Chen 2000, Sisk, Haddad, & Ehrlich 1997, Fernández et al. 2002, Honnay et al. 2002 & 2005, Sisk and Haddad 2002, Harper et al. 2005, Fischer and Lindenmayer 2007, and Matlack 1993.

Grazing - Mowing
The revised Plan implements a cessation of grazing permits on the GWNF.

Utilizing mowing on the Lee and North River RDs can harm or conflict with Wood Turtle (Glyptemys insculpta) populations.
Utilizing mowing, such as at Hidden Valley and at “wildlife openings”, can also significantly harm Box Turtle (Terrapene carolina) populations.
A management scheme to delay harvesting or mowing of fields until turtles have entered habitat for hibernation is implemented in the revised Plan.

The revised Plan implements restoration of rare Eastern Riverfront Hardwood (Bottomland Hardwoods) communities, not their suppression and/or degradation by livestock grazing, mowing, or haying.

Invasive Species
The Forest Service makes the Hemlock Wooly Adelgid a priority issue. The revised Plan does all it can to actively and explicitly deal with halting this biological catastrophe.

Invasives of concern include Ailanthus altissima - Tree of heaven; Elaeagnus species (angustifolia, pungens, umbellata) - Russian olive, Silverthorn, Autumn olive; Ligustrum sinense – Privet (Chinese and European);
Lonicera species - Honeysuckles, 4 species (bush and vine); Lonicera japonica - Japanese honeysuckle; Rosa multiflora - Multiflora rose; Lespedeza species - includes Shrubby lespedeza; Celastrus orbiculatus - Oriental bittersweet; Microstegium vimineum - Japanese (Asian) stilt grass, Nepalese browntop; and Alliaria petiolata - Garlic mustard.

The spread of invasive species such as Asian Stiltgrass, Garlic Mustard, Multi-flora Rose and Ailanthus is occurring throughout the Forest. Logging, road building, burning, and other development facilitate the spread of invasives. The current LRMP and the DLMP if implemented would allow for the substantial and significant spread and/or exacerbation of alien invasives.

To address this significant issue, the revised Plan significantly curtails logging, road building, burning, and other development that facilitate the spread of invasive species.

Minerals - Energy
The FS needs to examine withdrawing consent for oil and gas development (OGD) across the entire Forest where possible; varying amounts of withdrawal also need to be examined (e.g., withdrawing consent from all "Special Areas" such as Mountain Treasures).

The DLRMP allows controlled surface use in many special areas (see pg. 52). This is not appropriate. There is no evidence that this is necessary or required.

At the very least the revised Plan must have "no surface use" stipulations and no road construction stipulations at all Special Biological Areas, Appalachian Trail Locations/Relocations, Wild & Scenic River designations, Indiana Bat areas, Wilderness Study areas, Mountain Treasures, riparian areas, "special areas", and backcountry recreation areas. The GWNF planners examine and develop in detail this option/objective/guideline/dfc for managing the Forest.

The GWNF planners also examine and develop in detail this option/ objective/ guideline/ dfc for managing the Forest: Siteing of commercial wind development is not appropriate on the GWNF.

MIS/Focal Species/Wildlife/Diversity
Ovenbirds
Ovenbirds and Worm-eating Warblers indicate "conditions relative to forest interior habitats" (DCER-38).
How is "interior" defined, measured and analysed? It is critical to realize that the edge effect extends into the surrounding extant forest from roads and cutting sites.
In the EIS for the revised Plan the FS must present clear and thorough quantitative and qualitative evaluation and amounts of forest "interior" habitats and edge effects on the GWNF.
In addition, there must be some analysis, estimation, and disclosure of current population numbers and distribution for Ovenbirds, Scarlet Tanagers, Red-eyed Vireos, Wood Thrush, and/or whatever species are used to gauge impacts to forest interior habitat conditions and area sensitive species. Without this fundamental baseline information it is difficult to impossible to determine if adverse impacts are occurring.

The monitoring of focal species or MIS must be explicitly linked to "management" taking place on the Forest. Otherwise the monitored species are indicators of nothing.

Black Bear
The DCER/DAMS and DLMP contain no meaningful analysis of the loss of interior and/or remote Bear habitat that will occur and has already occurred here on the Forest. The GWNF planners must fully and fairly analyse and make clear disclosure about this issue in the EIS (including, for example, dealing with the avoidance of roads by Bears).

Of concern is the effectiveness of the proposed or allowed (in the DLMP) regeneration areas to function as "escape cover". There is no scientific monitoring information or research studies in the DCER/DAMS, or reference to such data, that substantiates the agency's claim that these regen sites function as escape cover for Bears. The EIS for the revised Plan must disclose clear analysis that supports the agency's claim as regards "escape cover".

The FS needs to consider, with the VDGIF and WVDNR, the establishment of Bear refuges on the Forest that are off-limits to hunting. Such areas exist on other National Forests. Closure of more roads during Bear kill and chase seasons needs to be evaluated and implemented.

Brook Trout
Trout streams on the GWNF receive expanded and strengthened protections in the revised Plan. In the revised Plan, special provisions (DFCs, Standards, guidelines) are made for the strict and comprehensive protection of wild Trout streams.

Cow Knob Salamander
The known range of the Cow Knob Salamander (Plethodon punctatus) has expanded since adoption of the 1993 Plan.
In the revised Plan the Shenandoah Crest SBA is expanded north and
south to incorporate newly found locations of the Salamanders.
In the revised Plan the Shenandoah Crest SBA is expanded down slope to include areas of the GWNF down to 2500-2600-feet in elevation.
Roads serve to fragment Cow Knob Salamander populations and habitat (Flint, W.D. 2004). To address habitat degradation and fragmentation, ATV and OHV routes and other roads are decommissioned/ removed/ revegetated in the Shenandoah Crest SIA-B.

White-tailed Deer
There is already a very high density of Deer on the Forest, recently estimated at 31/square mile (DCER - 45). In Virginia, the White-tailed Deer population has increased 400% since 1968, and Virginia's human population has increased 61% (Donaldson, B.M. 2005). Deer are already a significant economic problem (e.g., personal injuries and insurance claims of $1 billion/year) and source of property damage (e.g., crops and automobiles) (Donaldson, B.M. 2005; Clark, B. 2003).
At pg. 46 of the DCER the FS expresses concern about "increasing deer damage to plant communities". Unfortunately, and incongruously, the response is "increased management to enhance deer forage on the GWNF". Of course, this "increased management" to enhance the food supply for Deer also enhances Deer populations (i.e., the deer/browse treadmill), which of course exacerbates ecological damage from Deer, and on and on ad nauseum. In addition, logging ("enhance deer forage") directly and indirectly damages plant communities in other ways.

If there is a problem with oak regeneration on the GWNF, what is not being properly considered is that perhaps a major 'problem' for oaks could be called: 'It's the Deer, stupid'. See, e.g., Rooney, T.P. et al. 2004. Is there actually a lack of oak regeneration on the Forest? Or is there regeneration, but the regeneration is being eaten and suppressed/destroyed by Deer? In the Plan revision the FS must clearly and fully analyse and disclose this issue.

The revised Plan responds to the public demand for viewing Deer at population levels that are not damaging to forest ecosystems by significantly curtailing practices that promote high Deer numbers.

And calling the cutting on the Forest "management" for Bear or Turkey or Grouse or Golden-winged Warbler does not make the effect on the Deer population go away.

ESH

The FS must properly consider the contribution of natural processes to maintaining wildlife habitat, particularly "early successional/seral habitat", on the GWNF. The maturing and recovering GWNF naturally contains all developmental stages of forest growth due to regeneration at canopy gaps created by disease, fire, snow & ice, lightning strikes and resultant fire, insect outbreaks (including Gypsy Moths), tree senescence, windthrow, Beaver, drought, flooding, and other small-scale natural disturbances (Braun, E.L. 1950, Rentch, J.S. 2006). The FS planners must fully and fairly consider and analyse natural esh patches, particularly those under two acres in size (the scale of many canopy gaps).

In the interests of accountability, reason, science, sustainability, and forest health, the revised Plan/EIS requires/accomplishes the full survey, analysis and consideration of the contribution of naturally occurring ESH (down to 0.1 acre in size) to sustaining wildlife populations. The revised Plan/EIS clearly and thoroughly disclose supporting rationale and data for assertions that various amounts of ESH must be artificially fabricated with chainsaws or fires.

The GWNF planners fully and fairly evaluate and implement the option/dfc of ceasing to cut mature or old-growth sites and instead recutting the sites recently logged on the GWNF (i.e., those 10-40 years old) if early seral wildlife habitat must be fabricated (see Reynolds-Hogland, M.J. et al. 2006). Such alternatives, objectives, desired conditions, guidelines, standards, and goals must be fully developed, analysed, and evaluated and be part of the revised Plan. Further, the agency must fully and fairly consider and analyze the ESH on private lands near the GWNF and its contributions to sustaining wildlife populations.

Since the Forest Service has thus far failed to validate its so-called "need" to intensively log areas of our GWNF with site-specific wildlife population data for even the targeted game species, let alone for all other non-game species, the revised Plan must require (Standards, DFCs) that the FS obtain and analyze such site-specific wildlife population data before deciding to implement intensive cutting and other ground-disturbing activities/projects based on some ostensible and unverified "needs" of wildlife.

The Forest Service is excessively focused on the early successional habitat that results from timber sales. But there is much more to esh

than just the saplings that come up after logging operations, such as thickets, grasslands, sapling-seedling stands, heaths, young forests, pole timber, scrubby edge habitat, and shrubland. In other words, there are many types of esh that are not fabricated by logging of mature forest. These include not only habitat from natural processes, but also places such as utility line corridors and maintained openings.

Analyses of wildlife and development of desired future conditions (DFCs), guidelines and objectives must fully recognize and consider the differing types of early successional habitat on the Forest. The revised EIS fully analyses and discloses the amounts, distribution, and effects of all the differing types of early successional habitat. If site-specific data indicate an actual need to fabricate early seral wildlife habitat, the revised Plan requires the Forest Service to then fully and fairly consider the fabrication of small grassy openings instead of conducting extensive regeneration logging.

Diversity

At present on the GWNF there is an extreme disbalance in the distribution of age-class forest acres. There are generally very little or zero acres represented in the 131-140, 141-150, 151-160, 161-170, 171-180, 181-190, 191-200, 201-210, 211-220, 221-230, 231-240, 241-250, 251-260, 261-270, 271-280, 281-290, 291-300, 301-310, 311-320, 321-330, 331-340, 341-350, 351-360, 361-370, 371-380, 381-390, 391-400 years-old age classes at project areas.

The revised Forest Plan ceases the use of constrained and constricted age classes and lumping of such. The revised Plan requires the explicit use of older age classes, including those enumerated above, in analyses, monitoring, inventory, and decision-making, particularly as regards issues of age-class diversity, suitability, sustainability, and “balance”.

A further problem is that the FS uses a coarse insufficient approach that fails to acknowledge/reflect the actual compositional diversity present on the Forest. As the FS has thus far failed to explicitly acknowledge and use all the vegetation communities identified by the VDNH (Fleming, G.P. and P.P. Couling 2001) in its inventory, monitoring, analyses, and formulation of management direction/ practices, it is apparent that well-informed decision-making is not possible, nor is protection of the Forest’s diversity and sustained yield. Just as with age classes, this is another instance of the improper use of “lumping” by the agency.

The revised Forest Plan ceases the use of constrained and constricted vegetation classes and lumping of such. The revised Plan requires the explicit use of all the forest community classes, including those identified in the above VDNH document, in analyses, monitoring, inventory, DFCs, objectives, and decision-making, particularly as regards issues of diversity, suitability, sustainability, and “balance”.

Monitoring & Inventory - Protection of Forest Diversity, Viable Populations, and Sustained Yield

Management plans must insure research on and (based on continuous monitoring and assessment in the field) evaluation of the effects of each management system to the end that it will not produce substantial and permanent impairment of the productivity of the land (see the NFMA). We must expand the focal species and ecosystems receiving attention in order to accomplish the necessary multiple-scale

conservation on the Forest (Poiani, K.A. et al. 2000). The present MIS, except for some TES species, are all large mobile vertebrates. The use of these species does not accurately gauge the impacts to small site-sensitive species of limited mobility such as salamanders.

How long does it take such populations to reestablish and recover after they are suppressed? Are their populations being chronically suppressed due to an accumulation of impacts over time? Effects have the potential to last for decades. Impacts can be cumulative, direct, and/or indirect. For instance, reduction of prey populations for creatures with perhaps limited dispersal and recovery capabilities is neither appropriate nor beneficial.

The species monitored in the past are not sufficient for adequately indicating affects of management. The revised Plan needs to incorporate new/additional monitoring proxies, such as additional salamander species.

The revised Plan ensures that proper protocols and Standards exist for monitoring and avoiding harmful effects to site-sensitive species.

In order to protect the Forest's diversity, sustained yield, and population viability/distribution, the effects of prescribed burns, logging, roads, and other management actions upon fragmenting, diminishing, and/or degrading salamander habitat must be explicitly and fully addressed by the GWNF planners in the EIS and Plan revision.

The FS must address:
Plant species as MIS (aside from very rare species with extremely limited distributions such as the Swamp Pink), such as the Yellow Moccasin Flower (Cypridium calceolus) and the Wood Lily (Lilium philadelphicum);
Salamander species as MIS (aside from Tiger and Cow Knob Salamanders with limited distributions and therefore of limited utility on the Forest) (Southerland, M. T. et al. 2004, Welsh, H. H. and S. Droege 2001);
Locally Rare species as MIS (aside from Tiger and Cow Knob Salamanders);
Invertebrates (such as Ground Beetles) as MIS (Kremen, C. et al. 1993);
Small predators (e.g., Raccoons) as MIS (Engeman, R.M. et al. 2005);
Non-game of special interest as MIS (aside from Tiger and Cow Knob Salamanders and birds);
Red Maple (Acer rubrum) and invasive plant species (e.g., Asian Stiltgrass, Tree of Heaven, Garlic Mustard, Multiflora Rose) as indicators of negative impacts to community/ site/ forest diversity resulting from "even-age management", roads, and other development;
Aquatic MIS besides Wild Trout and Sunfish as the majority of streams on the Forest have NO Trout or Sunfish; perhaps darters, sculpins, and madtoms, and/or species dependant on clean gravel for reproductive success (McCormick, F.H. et al. 2001).
The above deficiencies are rectified in the revised Plan.

Bringing the revised GWNF Plan into simple "consistency" with the MIS used in the revised JNF Plan would be insufficient/inadequate and illegal since the MIS used in the revised JNF Plan are significantly flawed for the same reasons as explained above for the current GW Plan.

Aquatic Species

Problem:
The surrogate species used to monitor the Forest (such as Trout or Sunfish) do not exist in many of the streams affected by management

activities on the Forest. In addition, some of the species assessed by the FS, such as aquatic macro-invertebrates, apparently are not effective at indicating or detecting degradations. And species for indicating the health of intermittent and ephemeral stream habitats and populations are lacking.

A Forest Plan cannot be properly implemented without adequate monitoring and inventory protocols (Rentch, J.S. 2006). It is illegal to implement site-specific projects that may have significant impacts upon stream populations and/or habitat without adequate means/methodology to monitor and assess the impacts upon those populations and habitat. To continue to operate in this fashion violates the NFMA, NEPA, MUSYA, and/or APA.

The revised Plan has clear monitoring proxies/indicators for gauging impacts to the communities and diversity of all the waters on the Forest that do not have Trout or Sunfish (including intermittent and ephemeral streams and perennial streams in small watersheds).

Mountain Treasures

The revised Plan allocates all of the GWNF Mountain Treasure areas to management prescriptions/areas that are not suitable for timber production, timber harvest, road construction, and mineral/energy development; at the least, management must be consistent with the 2001 Roadless Area Conservation rule. Fully develop and study in detail this feasible option for managing the Forest. Implementation of this option will achieve or assist in achieving numerous goals, objectives, and desired conditions.

Thus far the GWNF planners have not performed a proper "inventory" of "roadless areas" (this is separate from the evaluation of these areas as "Wilderness"). Most of the Mountain Treasures qualify as "roadless areas" (see comment letter of June 23, 2009). This improper and inaccurate inventory must be rectified in the EIS.

Oak Regeneration

The Forest Service uses oaks to rationalize intensive management activities such as timber sales.

Maintaining artificially inflated numbers of oaks is no longer a "desired condition" in the revised Plan. The agency does not use misrepresentations, misperceptions, and fear-mongering regarding oaks as a rationale for spending millions of tax dollars fabricating "desired conditions" through timber sales and increased prescribed burning.

The Conservation Alternative calls for the Forest Service to fully and fairly consider scientific knowledge and empirical evidence regarding the innecessity of logging for the regeneration of oaks, to monitor oak reproduction in natural canopy gaps, and to fully inventory/estimate the numbers of such gaps and the amounts of oaks present (see, e.g., Clinton, B.D. 2003, Lynch, J. and J. Clark 2002, Beckage, B. et al. 2000, Miller, G. and J. Kochenderfer 1998, and Johnson, P. 1993).

Old Growth

As a result of past and ongoing depredations, old growth forest habitat is now considered "critically endangered" in the Southeast, with old growth surveyors and analysts estimating that little more than one-half of one percent of the forest cover in the southeastern

US is in old growth condition (USDA FS 2002 at p. 20; see also, Noss, R. et al. 1995 at p. 50).

The DCER and DLRMP do not address the deficiencies outlined in the letters, white paper, and reports submitted to the FS by conservationists. In fact, the FS proposes to make the situation even worse.
Now, unfortunately, even more cutting of OG is proposed by the FS, along with less analysis and disclosure. The FS is now proposing to also cut OGFT 25, in addition to OGFT 21, on suitable acreage (see proposed Option C-3 at DCER-24). And it "will not be inventoried for old-growth characteristics since acreage and patches existing and developing will be enough to meet late successional or old growth needs and no inventory or analysis will be done prior to any timber harvest project."
Apparently, despite the extreme rarity of eastern old growth, the GWNF planners would have the public believe there is an "adequate" amount to cut.

The revised LRMP clearly identifies/designates how and where a network of interconnected small, medium, and large patches of old growth is established on the GWNF.
ALL possible/potential/actual old growth (based on age data and/or
field work) of any size patch is strictly protected from (i.e., not "suitable" for) logging, roading, and other development. The GWNF planners examine and develop in detail this
option/objective/guideline/dfc for managing the Forest under the revised Plan and implement such under this Conservation Alternative. Implementation of these options will achieve or assist in achieving numerous goals, objectives, and desired conditions.

Rare Species
"When adequate population inventory information is unavailable, it must be collected when the site has a high potential for occupancy by a threatened, endangered, proposed, or sensitive species." See Std. 240 at GWNF LRMP 3 - 149.
To maintain the Forest's diversity, communities, and sustainability, the Forest Service/revised Plan must retain and adhere to this directive to collect population inventory data on sensitive plant and animal species. This Standard/guideline is revised to read "When adequate population inventory information is unavailable, it must be collected when the site has a high potential for occupancy by a threatened, endangered, proposed, sensitive, locally rare species, or species of concern."

"Locally Rare" species and the FS/Plan's current failings to protect them: These species must be fully addressed and the revised Plan contains explicit goals, objectives, guidelines, desired conditions, and standards that strictly protect their populations and that require meaningful and effective surveying, inventory, and monitoring.

The numbers, condition, and distribution of populations of Sensitive Species: These species must be fully addressed and the revised Plan contains explicit goals, objectives, guidelines, desired conditions, and standards that strictly protect their populations and that require meaningful and effective surveying, inventory, and monitoring.

The current Plan allows management activities to go forward even when

PETS species are present, as long as the decision is said to not result in "negative population trends that would result in federal listing." (Std. 243 at GWNF LRMP 3 - 150)

This allows local populations to be extirpated as long as the overall population numbers or trend do not require federal listing under the ESA. This unreasonable tact is beyond the proper scope of analysis. Federal listing decisions are far beyond the purview of the GWNF Plan or even the Forest Service. The protection of populations off the Forest is far beyond the purview of the GWNF Plan or even the Forest Service.

But it is the fate of populations on this planning area that are the concern (or should be) of this Forest Plan, not those unknown speculative populations beyond its control that may exist (or not) elsewhere. What this Standard represents is an attempt by the FS to abdicate their responsibilities to protect this Forest's diversity, sustainability, viable populations, and distribution of populations. This Standard is not compliant with the NFMA. This Standard is rescinded from the revised Plan.

All areas recommended by Virginia Division of Natural Heritage for Special Interest Areas are allocated to SBA or RNA prescriptions (unless allocated to Wilderness Study Areas).

The salvage logging of dead, dying, or damaged trees is not appropriate in SBAs (i.e., "Botanical - Zoological Areas").
Add Guideline for SBAs: These areas are not "suitable" for timber harvest/production (including "salvage"), road construction of any kind, or mineral/gas/energy development.
Add Guideline for SBAs: Recreational access through these areas may be restricted in order to protect zoological or botanical resources.
Add Guideline for SBAs: A high or very high scenic integrity objective should be met or exceeded across all scenic classes when designing management activities.
Add/amend Guideline: The Forest, outside of Indiana Bat primary protection areas and special zoological - botanical areas, is generally suitable for nonmotorized trail construction or reconstruction.

The Reddish Knob observation/hang gliding area is neither expanded nor maintained under the revised Plan.

Some species of concern include Yellow Lampmussel (Lampsilis cariosa), Brook Floater (Alasmidonta varicose), Green Floater (Lasmigona subviridis), James Spinymussel (Pleurobema collina), Indiana Bat (Myotis sodalis), Pine Snake (Pituophis melanoleucus), Wood Turtle (Glyptemys insculpta), Cerulean Warbler (Dendroica cerulea), Eastern Banded Rattlesnake (Crotalus horridus), Spotted Turtle (Clemmys guttata), Northern Red-bellied Cooter (Pseudemys rubriventris), Coal Skink (Eumeces anthracinus), and Allegheny Woodrat (Neotoma floridana magister), as well as plants such as Huechera alba, Panax quinquefoilius, and Xerophyllum asphodeloides.

The revised Plan explicitly addresses the potential for Plan or project implementation to result in significant impacts (direct, indirect, and/or cumulative) to the distribution and/or viability of the Green Floater, Brook Floater, and Yellow Lampmussel. The revised Plan ensures that special aquatic surveys needed to detect these mussels and the James Spinymussel occur at all site-specific project areas within their range where there is suitable habitat. The revised

Plan ensures that habitats for these mussels are strictly protected from loss and/or degradation.

Pine Snake habitats need to be strictly protected. The revised Plan explicitly addresses the potential for project implementation to result in significant impacts (direct, indirect, and/or cumulative) to the distribution and/or viability of the Pine Snake. The revised Plan ensures that special surveys needed to detect the Pine Snake occur at all project areas within its range where there is suitable habitat. The revised Plan ensures that habitat for the Pine Snake is strictly protected from loss and/or degradation.

Wood Turtle

Thus far, management for the Wood Turtle (Glyptemys insculpta) proposed by the GWNF planners is strikingly inadequate. Current proposals are little more than the codification of business as usual on the Forest.

The Revised Plan contains Objectives, Guidelines, Desired Conditions, and Standards for the restoration and strict protection of the Wood Turtle's (Glyptemys insculpta) habitat and populations on the Forest. Significantly stronger spatial and temporal restrictions on activities in the their habitat are implemented. (For explication of concerns and issues regarding the Wood Turtle, see "Wood Turtle Conservation on the GWNF" submitted by Steven Krichbaum to the FS/GWNF in June of 2009, S. Krichbaum comment letters on Forest Plan revision to USFS dated August 8, 2008, October 24, 2008, and January 8, 2009, as well as all the reports and scientific literature regarding the Wood Turtle I have submitted to the agency 2004-2010; all incorporated by reference.) The one constricted "emphasis area" (of dubious emphasis on the Turtle) in the draft documents is unreasonable and inadequate for maintaining the species' population viability and distribution on the Forest.

The boundaries for designating special biological areas and/or protected buffer/riparian/stream-associated terrestrial habitat zones should generally (depending on topography, habitat type, and land use) encompass those areas within 200-350 meters of both sides of the occupied waterway (i.e., encompassing core habitat). In this way much of the habitat mosaic critical to all of the Turtle's life history needs is included and its ecological integrity sustained and buffered (see, e.g., Akre, T. and C. Ernst 2006, Roe, J.H. and A. Georges 2007, Semlitsch, R. D., and J. R. Bodie 2003, and Burke, V.J. and J.W. Gibbons 1995).

In the revised Plan, Wood Turtle population locations are stringently protected from logging, burning, and road construction, as well as some recreational activities. In the absence of and/or in addition to allocating and protecting these sites as "special areas" (e.g., SBAs or RNAs) with their own prescriptions, meaningful protections (Guidelines, Standards, etc.) are in place to restrict the aforementioned harmful activities from occurring within the Turtles' core habitat.

Indiana Bat

Meaningful and scientifically valid measures must be taken so as to ascertain with any reasonable probability if the habitat at project sites is actually "occupied" by the Bats. Daytime walk-through "surveys" are not a valid means of accomplishing this.

The current GWNF Plan has Standards mandating distinct no-disturbance zones around roost trees and maternity roosts. However, when implementing the current Plan through site-specific projects the Forest Service typically fails to ascertain with feasible methods

exactly where the Bats are occupying such trees/habitat at proposed disturbance sites. Adequate population inventory information is not available and not being obtained for most project sites. In this way, it is not known or determined where or even if the Plan strictures for roost trees and maternity roosts need to be applied there at the specific project areas. The agency has thus far failed to honestly address and disclose this significant uncertainty.
So not only is it uncertain whether the agency is complying with the allowable ESA Incidental Take, but meaningful compliance with the Plan is also subverted and thwarted. This is unreasonable and capricious. Failure to make a good-faith or meaningful effort to locate the Bat in a project area violates the NFMA and its regulations. In violation of the ESA, the failure to perform reasonable and effective surveys (night-time mist nets and Anabat detectors) does not place "top priority" on this Endangered species.
By not properly surveying and monitoring sites either before or after ground disturbing activities, the Forest Service does not reasonably ensure that the "authorized levels" of "take" (viz., no more than 10 Bats annually) are not being exceeded.

The Indiana Bat is retained as a MIS. The revised GWNF LRMP requires that reasonable, effective, and site-specific surveys meaningful (night-time mist nets and Anabat detectors) be conducted prior to ground disturbing projects (e.g., logging, burning, road construction, mineral/energy development). In addition, protective zones around hibernacula caves are expanded and strengthened.

Recreation - Non-motorized and Primitive
Recreational opportunities and scenic beauty are lost and damaged under the current management regime on the GWNF.
The revised Plan provides clear direction for significantly increasing the amounts of "SPNM" and "Semi-Primitive Motorized 2" acreage available on the Forest and for strictly protecting all such lands from development (they are not "suitable"). The potential for restoring/providing "Primitive" conditions on the Forest is fully and fairly analysed and disclosed. A listing and map with all the Forest's trails clearly identified is provided in the public documentation. The Plan requires that timber sales not be placed next to trails and other important recreational areas on the Forest.

Recreation – Developed
Under the revised Plan, existing developed recreation sites are maintained.

Restoration
"
Forest restoration begins with comprehensive transportation planning that identifies and funds upgrading, maintenance, or decommissioning forest roads." (Jim Burchfield and Martin Nie. September 2008. "National Forests Policy Assessment: Report to Senator John Tester". College of Forestry and Conservation, The University of Montana, Missoula, MT) (emphasis added)
However, when the FS does mention restoration, it often refers to maintaining or fabricating cultural landscapes that are dependent on anthropogenic inputs for their structure, composition, and/or function. This is not restoration in the valid sense of the concept.

See DellaSala, D.A. et al. 2003.

Returning the grandeur of the American Chestnut to the Forest must be a Plan priority, as must be halting the loss of Hemlocks.

There are many miles of currently open, closed, and temporary roads, "wildlife openings", and recent even-age logging sites on the Forest that could and should be used as planting sites for the reintroduction of American Chestnut. Various roads can be decommissioned, recontoured/obliterated, and revegetated with Chestnut. Similarly, the vegetation at various game openings and recent logged-over sites needs to be manipulated so as to reintroduce Chestnut at these sites. New logging is not needed to restore the Chestnut to the GWNF.

By using/converting existent roadbeds for Chestnut restoration, multiple restoration goals (e.g., providing for remote habitat and recreation, interior forest, helping to impede the influx of invasive species, decrease road densities and road maintenance expenditures, improve watershed quality) can be accomplished in one action. Recent logging units have also fabricated patches suitable for plantings, should also use these.

The Forest's drinking-watersheds are priority areas for restoration (along with Mountain Treasures and SBAs): where non-critical roads (of maintenance level 1 or 2) are identified and targeted for decommissioning, closure, recontouring, and revegetating. The current Forest-level "Roads Analysis" is insufficient for informing or dealing with this issue. The revised Plan must have guidelines, objectives, desired conditions, goals, and standards for explicitly addressing this significant issue and implementing such road- and water quality-related restoration and improvements. In this way the revised Plan will be consistent with Forest Service strategic goals # 1, 2, 3, 5, and 6.

Restoration priorities in the revised Plan call for the Forest Service to:
∑ prioritize watersheds for restoration activities,
∑ cease grazing allotments,
∑ close targeted roads and revegetate them with blight-resistant Chestnut trees or other native species,
∑ revegetate game openings with Chestnut trees or other native species,
∑ combat Hemlock Wooly Adelgid,
∑ transform roads into trails,
∑ augment stream loadings of large woody debris,
∑ restore riparian areas by relocating camping areas, trails and roads away from streams in areas such as North River and Paddy Run,
∑ reforest riparian pastures at Jackson and Shenandoah Rivers,
∑ promote increased Beaver populations,
∑ work to return extirpated species (e.g., Cougar, Elk?) to suitable habitat, and
∑ eradicate and prevent introduction of invasive species.

Riparian Areas

On the GWNF intense ground-disturbing management activities take place or have taken place that harm or degrade riparian and aquatic conditions and biota.

In the current Forest Plan and thus far in the revision process, the consideration of riparian areas by the GW planners is inadequate and unduly constrained.

Ilhardt (2000; cited in DCER) considers intermittent and

channeled
ephemeral streams to have riparian areas, in contrast to the 2007 draft Plan (see pg. 11).

"Welsch et al (2000) recommend riparian forest buffer widths equal to
at least two tree lengths."

Research involving amphibians, reptiles, and birds indicate the need
for minimum stream buffer widths (protected "core zones") of 75-290 meters (Semlitsch, R. D. and J. R. Bodie 2003; R.D. Semlitsch 1998; Spackman, S. C. and J. W. Hughes 1995; Staicer, C. 2005).

It is crucial to recognize and address the fact that riparian zones are not just buffers for aquatic habitat, but are themselves core habitat for various taxa. So the riparian zones/areas themselves need to be buffered from, for example, edge affects or recreation or roads. The upper watershed or upslope habitat can be just as important as the narrowly defined "riparian" habitat. This is another cogent reason for making the strictly protected riparian or aquatic buffer areas as wide as possible (such as, e.g., two tree lengths or 300 feet, or at least 127 or 290 meters from the stream bank).

A 300 feet no cutting/ no vehicle/ no road construction/ no mineral or energy development buffer ("unsuitable") for perennial streams, 250/225 feet for intermittent, and 200/150 feet for channeled ephemeral streams are appropriate, scientifically valid, and feasible to implement on the GWNF. The FS examines and develops in detail these option/objective/guideline/dfcs for managing the Forest under the revised Plan.

In the current Forest Plan, most of the attention given to water resources focuses on riparian areas. This is not sufficient. Management must address entire watersheds (at multiple scales/orders), not just riparian areas. The GWNF revised Plan must do much more than the current Plan or draft Plan in order to meet a major goal of the Forest Service Strategic Plan: "Improve watershed condition" (USDA Forest Service 2004). This expanded consideration is necessitated not just by concerns for human drinking water quality, but also by other significant ecological concerns as well.

Woody Debris and Litter

Many streams on the GWNF are deficient as regards loadings of large woody debris.

Under the revised Plan, no logging occurs in any riparian areas so as to preserve potential sources of LWD on site. Further, sites that are not officially considered to be "riparian" but that are within the contributory zone for LWD and shade (such as relatively far away up steep slopes) are not to be logged. This will help ensure the protection of upslope conditions that contribute to the integrity and resiliency of riparian areas. In addition, individual trees may be judiciously cut and felled into streams to provide LWD to streams that are deficient. Streams are prioritized for such treatments, for example based on the presence of rare species that benefit from such material.

Roads

There is an excessive amount of road mileage on the Forest and the Forest Service continues to build still more. At present only two Management Areas on the Forest, MAs 14 and 15, have road density

Standards; so 53% of our GWNF has no existing Plan standards limiting road density. Road density exceeds Standards on approximately 300,000 acres, or around 28%, of our GWNF. The national FS Roads Policy is not being implemented. The FS has not identified the minimum road system needed. The Forest-level "roads analysis" conducted in 2003 is inadequate for making management decisions regarding the road system on the Forest and insufficient for addressing issues and concerns raised by the public.
The road density Standards that currently exist only apply to "open" permanent Forest Service system roads; meaning that the Forest Plan allows an unlimited mileage of "closed" and "temporary" roads to be smashed through the GWNF. Plus, perimeter roads do not count in the calculations. Further, there is no standard that requires road density Standards to actually be met within any set time (see MA and Forest-wide Standards at the LRMP 3 - 4-158).

The FS asserts that "motorized access must be balanced . . ." (DCER-64) What balance is there with over 1800 miles of FS system roads and hundreds of miles of other state and federal roads and temporary roads and most of the Forest open to road construction? At present there is a grand total of 3,017 miles of permanent roads on the Forest (see Draft Plan at pg. 21). There is already an extreme disbalance. Having at least 50% of the Forest in protected and restored Wilderness without roads would be a step toward true "balance" on the Forest.

Strict protection of all the identified GWNF Mountain Treasures would assist in moving toward balance as regards Forest "access". The FS must allow no road construction of any kind in these MT areas; and various roads currently within the MT areas will be selectively decommissioned, obliterated, recontoured, revegetated with native plants (e.g., Chestnut), and converted to trails. Fully develop and study in detail this option for achieving "balance" on the Forest.
Implementation of this option/objective/guideline/alternative/desired condition will help achieve Forest Service Goals 1, 2, 3, and 5 (see DCER pg. 4).

The agency's proposed option can clearly result in increased roads open to public vehicles. The necessity or desirability for doing this is not apparent. Such an action may harm recreational opportunities for many Forest visitors, as well as harming wildlife and watershed conditions (Trombulak, S.C. and C.A. Frissell 2000). The FS must address these significant issues.
A better option is for the revised Plan to retain the road density standards found in the current Plan and for the FS to actually move toward achieving them. Examine and develop in detail this option/ objective/ guideline/ dfc for managing the Forest. This is a significant and national public issue.
Implementation of this option/objective/guideline/alternative/desired condition will help achieve Forest Service Goals 1, 2, 3, and 5 (see DCER pg. 4).
Other MAs or MPs (aside from MAs 14 & 15, or lands formerly allocated to them) need to have road density standards. The revised Plan has DFCs, Standards, and objectives that accomplish this.

The Forest Service needs to disclose to the public the total amount of all roads on all the Forest polygons and disclose the road density for ALL polygons on the Forest based on the TOTAL amount of road mileage.

Disclosure and evaluation of total amounts and density are fundamental for well-reasoned decision-making, for rationally formulating guidelines, desired conditions, objectives, and standards, and for meaningful public participation in the planning process.

For the revision of the Plan, Forest Service planners need to fully and fairly address, evaluate, and disclose road closure opportunities on the George Washington National Forest. The DCER and DLRMP do not manifest this relevant and significant planning concern.

"Over the next 10 years, 5 to 10 miles of roads (classified and unauthorized) are decommissioned." (DLRMP – 55)
This "objective" is significantly deficient. It is not clear how this quantity was derived. This issue is not receiving the priority attention that is appropriate. The FS should decommission 10-20 miles of roads per year over the next ten years in order to make meaningful progress toward achieving goals, restore wildlife habitat, improve watershed conditions, increase recreational opportunities, improve forest health, address fragmentation and other ecological harms, and help stop invasive species. Implementation of this option/objective/guideline/alternative/desired condition will help achieve Forest Service Goals 1, 2, 3, and 5 in a cost-effective manner (see DCER pg. 4).
An appropriate place to implement this opportunity is with roads in MA 14 polygons # 9, 56, 59, and 60, and MA 15 polygons # 11, 54, 62, and 65.
Other places where the agency must aggressively decommission, close, obliterate, and revegetate roads on the Forest include all areas allocated to MAs 14 and 15 in the 1993 Plan, and also in all Special Biological Areas (MA 4), Special Management Areas (MA 21), Remote Highlands (MA 9), as well as "special areas", "roadless areas", "potential wilderness areas", all "special biological areas" identified by the VDNH and WVDNR and other specialists, Wood Turtle conservation sites, watersheds providing public drinking water, "semi-primitive" areas, and "Mountain Treasure" areas identified by the public.

The revised Plan requires a site-specific "road analysis" at ALL project areas prior to the project level decision, regardless of whether or not classified road construction or reconstruction is proposed or other conditions are present or not. To speed the process, the revised Plan's standards, guidelines, and objectives will also require timely watershed-by-watershed road analyses to be completed. In this way, road decommissioning opportunities can be systematically identified.

The FS must fully address and evaluate the impacts and effects of Forest roads (be they system, closed, temporary) upon invasive plant species (see Goal #3 at CER pg. 4). The construction and maintenance of roads on the Forest does not "reduce impacts from invasive species", instead it exacerbates them. Decommissioning and revegetating (with native species such as Chestnut) various roads on the Forest will positively address Goal #3. This option for achieving desired conditions must be developed and studied in detail and implemented in the revised Plan.

The impacts of roads and their associated edge effects upon habitat loss, habitat degradation, habitat fragmentation, and forest fragmentation must be fully considered, disclosed, analysed, and evaluated. Although there are various ways to examine it, at the least

a meaningful effort must be made by the FS revision planners to in some way identify, quantify, measure, analyse, map, and disclose the road effect zone on the Forest.
The information regarding road amounts, densities, edge effect zones, and fragmentation are basic baseline data essential for the agency to benchmark and measure its performance, essential for successful implementation of the agency's strategic plan, and essential for accountability to the public.

What exactly is an "unimproved" road? In the EIS and revised Plan the FS clarifies this important and relevant issue; i.e., how precisely do "unimproved" roads differ from "improved" ones. It is not at all clear what roads are counted toward calculating road densities to identify NF sites to be added to the roadless areas inventory and/or evaluating said areas.

Roads shall be decommissioned, revegetated, recontoured, and obliterated to restore habitat and watershed integrity, enhance esthetic and recreational benefits, and to meet road density requirements for wildlife species that favor remote habitat and freedom from disturbance (e.g., an open road density of no more than one-quarter mile of open road per 1000 acres; see Standard 14-7 at GWNF LRMP 3-75).
The GW planners identify the minimum road system needed on the Forest
(see 36 CFR 212.5). The revised Plan establishes clear unequivocal objectives for when road density Guidelines are to be met. The revised Plan establishes clear unequivocal objectives and DFCs for limiting "closed" roads. The revised Plan establishes clear unequivocal objectives and DFCs to limit "temporary" roads. The revised Plan establishes clear unequivocal objectives and DFCs for when roads will be decommissioned. The revised Plan establishes clear unequivocal objectives and DFCs on limiting total road mileage and density throughout the Forest.
An objective for the revised Plan is to achieve conditions where the density of open Forest Service roads is no more than 0.8 miles per square mile across the entire Forest. The objective over the next 15 years should be to reduce the total road mileage (of FSR roads) on the Forest to 1984 levels (1330 miles). This work will provide many jobs to local communities. To accomplish this watershed rehabilitation work, reallocate monies presently spent on administering timber sales. Such work is part of wildlife habitat improvement and watershed rehabilitation.

Scenic and Recreational Areas
In addition to those mentioned at pg. 35 of the DLRMP, "Scenic Corridors" should include: Old Parkersburg Turnpike (rt. 688), Marble Valley - Big River Road (rt. 600 in NRRD), Wolf Gap Road (rt. 675, and the portion in WV), Trout Run road in WV, Passage Creek Road (rt. 678), Rt. 340, Shenandoah – Warm Springs Mountains roads (WV rt. 3 – WV rt. 21 – VA rt. 614), Allegheny Mountain road (rt. 600 in WS/JR RDs), Hematite Road (rt. 159), Boiling Spring road (rt. 18), Vesuvius Road (rt. 608), Sherando road (rt. 664) (route numbers from 1993 GWNF Plan map). These are all roads that receive high amounts of regular use for which the GWNF supplies critical aesthetically pleasing scenery. Other routes to consider for inclusion are: rt. 666, rt. 687, rt. 730, rt. 159, rt. 600, and FDR 106.
A criterion for designation of corridors in the revised Plan is to include the visual middleground, not just the foreground.

“Dispersed Recreation Areas” such as North River and Hidden Valley are important Special Areas that must NOT be “suitable for timber harvest/production”. Timber harvest or production harms dispersed recreational values and opportunities. North River is also a significant drinking watershed (for Staunton).

Members of the public go to semi-primitive core areas to get away from evidence of human disturbances, including those wrought by the FS. Under the revised Plan no more openings are fabricated or expanded in semi-primitive areas. And the integrity of semi-primitive core areas should be restored by reforesting artificial openings and their access roads (perhaps with Chestnuts) and allowing them to recover to natural forest.

There is the possibility for “Primitive recreation” capability on Shenandoah Mountain. This is one of the extremely few areas in an eastern National Forest where such is possible (at least 3 miles from an open road). The GW planners fully and fairly analyse this issue/opportunity (i.e., the provision of such an opportunity) in the EIS for the Plan revision.

At present, 636,000 acres of GWNF only have a “low” to “moderate aesthetic objective”. The appearance of the Forest is a significant national and regional issue and very important to the public (see survey results). Having 60% of the Forest with only a low/moderate scenic quality objective is insufficient and unreasonable.
In the revised Plan, at least 3/4 of the GWNF has SIOs of Very High or High. The FS needs to investigate and evaluate in detail this option/dfc. The Conservation Alternative implements this management direction through Standards, guidelines, DFCs, and allocations.

The so-called “short-term” VQO objectives can be applied even when they conflict with DFCs; as if visual impacts of logging do not last decades (long-term). The use of “rehabilitation” does not adequately address long-term impacts or harm to the public and to the scenery. The revised Plan should cease use of “rehabilitation” and “enhancement”; fully evaluate this option.

Shenandoah Mountain
The crown jewel of the Central Appalachians, Shenandoah Mountain is perhaps the most important single “special area” on the Forest; it is certainly the largest.
Shenandoah Mountain is managed under a hodgepodge of differing management area prescriptions with conflicting emphases that do not adequately conserve the special values and conditions found here. In short, the Forest Service does not adequately recognize the significance of the Mountain. Management decisions and actions damage the Mountain’s significant ecological, social, recreational, economic, and spiritual values.

The entirety of Shenandoah Mountain must be allocated to management prescriptions that fully and consistently preserve and restore the special values and conditions found here. In recognition of its critical significance and to effectuate conservation goals it should be considered and studied for designation as a National Conservation Area. Under the revised Plan the entire area is not suitable for timber harvest, road building, grazing, or mineral/gas/wind development. The desired future condition for the SM Conservation Area

will be an all-aged forest mimicking conditions of pre-European settlement. The Conservation Area will be forever wild with minimal development; of course, the present developed recreational sites such as Todd Lake and Brandywine will be retained.

Shifting/Arbitrary Scope of Analysis

Conditions off the Forest are considered or not by FS planners, simply due to whatever is expedient for deciding to go ahead with ground-disturbing projects/actions (see DCER/DAMS and DLMP).

When it comes to old-growth forest the fact that 99% is gone elsewhere off the Forest does not matter; since a greater proportion exists on the Forest there is an "adequate" amount on the Forest to make it okay to cut. When it comes to "locally rare" species the fact that they may not be rare elsewhere off the Forest does matter; so their rare or vulnerable populations on the Forest do not need to be strictly protected. When it comes to early successional habitat the fact that there is a plethora of this off the Forest does not matter; more must be fabricated on the Forest. When it comes to the Indiana Bat the conditions elsewhere off-site do matter; virtually the entire Forest is used as an analysis area to gauge project-level impacts. When it comes to Wilderness Areas, that are in extremely short supply on the Forest, the conditions elsewhere off the Forest do matter; the public is told that since Wilderness is "available" elsewhere on the Monongahela and Jefferson NFs and Shenandoah NP, then substantially more is not needed or desirable here. When it comes to Wilderness Areas, that are in extremely short supply off the Forest (e.g., less than 1% of Virginia), the conditions elsewhere off the Forest do not matter; the designation of substantially more Wilderness would get in the way of the agency's zeal for logging and roads (even to the point of making 500,000 acres "suitable" for cutting). When it comes to "primitive recreation" the fact that it is not available off the Forest does not matter; providing it on the Forest would be too much trouble for the FS or get in the way of logging and road priorities. When it comes to pastures and grazing, which are extremely common off the Forest, the conditions off-Forest do not matter; the FS must continue to provide conditions here that are common elsewhere. When it comes to sedimentation conditions off the Forest do matter; entire watersheds, including large land areas that are not part of the GWNF, are used as analysis areas so as to misleadingly dilute the ostensible impacts by making the amounts of sediment seem but a small proportion.

The FS must either stop this nonsense in the Plan analysis or come clean to the public about this shell game of rolling baselines and shifting analysis areas.

Soils

Is part of the reason numerous sites on the Forest have low site indices (e.g., 40-60) due to the fact that have been intensively logged in the past? How and to what extent will continuing to log these low site index sites make their productivity even poorer? What are the effects and situation associated with poor soil quality, low buffering capacity, and/or high leaching rates? How much N-loading is occurring on the Forest and what is projected? What are the impacts from past, current, and future N deposition? What data, monitoring, information, and research is the Forest Service using to address these concerns/issues? Elevated aluminum levels are of concern.

Special Conditions

Aside from discrete special areas, there are numerous conditions within the general forest area of the GWNF that need to be given special consideration. The current GWNF Plan does not sufficiently protect the Forest's diversity as it allows special forest conditions to be harmed. These sensitive sites include springs, seeps, rocky outcrops and slopes, scree, talus, steep slopes, places with poor growing conditions (low "site indexes"), and unusual or rare forest types. They need special consideration.

All these special and vulnerable places are strictly protected under the new revised GWNF Plan. The Plan will have explicit standards, guidelines, objectives and DFCs to accomplish this. These specialized habitats are not considered "suitable" for logging, timber production/harvest, road construction, drilling, mining, or other harmful disturbance. Not only will the particular physical sites be fully protected from harm, but protective buffer zones around them will also be recognized and implemented. The protective no-disturbance buffer around springs, seeps, rock outcrops, and rocky slopes is at least a tree-height in extent so as to protect their integrity (e.g., protect them from increased temperatures).

"Timber Management" and "Suitability"

Commercial logging in National Forests is extremely controversial and is opposed by 70% of the American public (US-Forest Service 1986; Market Strategies, Inc. and Lake, Snell, Sosin, Perry, and Associates 1998; GW-J survey?).

Should the government be in the business of selling trees? Taxpayers heavily subsidize the National Forest timber sale program. That is, the logging is a money loser. The receipts do not cover the expenditures. And it operates in competition with private landholders. Nationwide, it has been estimated that the National Forest timber program loses over a BILLION dollars a year, and this estimate is conservative (Hanson, C. 2000). In other words, the profits are privatized (by the timber industry) and the costs are socialized (by US taxpayers). The timber sale program is "below-cost" on the George Washington-Jefferson National Forests.

In response to public values and ecological concerns, for the Conservation Alternative the FS fully develops and examines in detail the option/DFC of no timber sales/commercial logging on the GWNF. In case such a zero commercial logging alternative can/is somehow be construed to not be legal, viable, or feasible, then also fully develop and examine in detail the option/DFC/guideline of having a small timber sale/commercial logging on the GWNF (of perhaps 5-50 acres so as to accommodate small businesses).

With the adoption of the revised Plan, a gradual phase-out is immediately initiated with the objective of preparing no more than one timber sale (of no more than 125 cutting acres) per Ranger District per year by four years from the date of adoption of the revised Plan. Then in the following four years, these timber sales are phased-out to zero.

In addition, for developing, evaluating, and comparing a range of alternatives, the FS should evaluate the use of a 500-year rotation on "lands generally suitable for timber production". This time-frame is based on old-growth characteristics of living trees that inhabit these

ecosystems, the succession and stabilization times of herbal communities, as well as the time that fallen boles exist as they recompose into soil and other forest attributes. This is a viable option/alternative that needs to be examined in detail for the revised Plan.
Coupled with this, the amount of suitable acreage would be based on having no more than one "viable" timber sale a year. Such economic viability would perhaps require a timber sale to be of a certain size. If it is 50 acres, then the amount of "suitable" acreage would be 25,000 acres. This acreage would be on the periphery of the Forest in places with a high open road density.

Low site index lands (below 70) must NOT be suitable for timber production/harvesting.
Steep slopes (> 35%) must NOT be suitable for cutting.
Special habitat conditions must NOT be suitable for timber production/harvesting.
Examine and develop in detail this option/objective/guideline/dfc for
managing the Forest that incorporates the above guidelines/DFCs.

The FS needs to identify and map the soils and sites on the GWNF that are at risk of nutrient depletion due to cumulative impacts associated with acidic degradation. These sites must NOT be "suitable" for logging. The FS needs to map and disclose these areas. See the map on "Potential Soil Nutrient Sensitivity to the Effects of Acid Deposition" in the Monongahela NF 2006 FEIS at 3 - 35. Sensitive geology, sulfate deposition, and acidic impaired streams were used to identify these sites on the MNF.
What areas on the GWNF where there is the potential exceedance of critical acid loading? What areas on the GWNF where there is the current actual exceedance of critical acid loading? These potential and existing sites must not be "suitable" for logging. The FS needs to map and disclose these areas. See McNulty, S.G. et al. 2007.
The above baseline information is necessary to inform decisions as to suitability, DFCs, and objectives.
In the revised Plan, so as to avoid cumulative impacts and stresses, watersheds with impaired streams (e.g., Laurel Run on the Lee RD) are "not suitable" for logging.

In the draft EIS and final EIS for the revised Plan, for each alternative the FS planners clearly disclose the full monetary costs and receipts for the timber sale program on the GWNF.

In determining the "suitable" timber base and/or "present net value" (PNV), the GWNF planners must include ALL the costs of the timber program/timber production activities (including assessments, inventorying, and timber-related overhead). See 36 CFR 219.14(b). This proper accounting is necessary, in part, so that both the public and the FS can meaningfully evaluate and make decisions about alternatives (see 36 CFR 219.14(c) and section 6(k) of the NFMA).

The FS has proposed modifying the current Plan to allow salvage logging in SBAs (see DCER and draft Plan). This is entirely unreasonable and unnecessary. What is the rationale/necessity for such a course of action?
What part of "natural processes" (see MA 4 description) doesn't the FS understand? Places cease to be "special" or "natural" when opened up to the agency's routine exploitations, manipulations, or extractions.
The FS also proposes to allow salvage in Scenic Corridors or Viewsheds

(MA 7) and open up "Remote Backcountry Area" (MA 9) to more salvage.

Salvage logging is not consistent with the DFCs for any of these areas (MAs 4, 7, and 9).

The reasons for having opening-size limits apply just as well to "salvage" logging as to non-salvage logging; the same size limits should apply.

The GW planners need to examine alternatives that enforce all the same restrictions, requirements, and environmental protection constraints on "salvage" logging as for non-salvage logging.

The revised Plan establishes that cutting in lands that were allocated to MA 14 is significantly reduced/halted over the next planning period in order to compensate for the overcutting that previously occurred (no more than approximately 150 acres can be cut in the next 14 years).

Guidelines/standards in the revised Plan require the gathering of site-specific population numbers of focal species so as to validate project-level habitat manipulations (timber management) that are purportedly "needed" for their (wildlife focal species or MIS) benefit.

The Forest Service is now even proposing to increase the lands available as "suitable" for logging to ca. 500,000 acres. The FS planners are proposing to make an amount of area "suitable" for logging on the GWNF that is almost DOUBLE of what they had proposed almost 20 years ago.

Further compounding the harm, the FS is also now proposing to lump Management Areas (e.g., 14, 15, 16) together. This would allow/expand the distribution of more perforations and edge effects across the Forest (from such actions as "wildlife management", logging, and roads), further significantly reduce or degrade dispersed and non-motorized recreation opportunities and high quality scenery, as well as open more remote, old age, and interior forest to development and allow for sedimentation of/impacts to more headwater streams.

The impacts of increases in "suitable" lands and the lumping of management areas allowing "timber management" must be fully and fairly examined and disclosed in the EIS.

Water Quality

Impaired Streams

The 38 impaired streams need special attention from the Forest Service. The revised Plan must have objectives, guidelines, desired conditions, and standards that explicitly address the protection and restoration of all these degraded sites.

New Management Areas/Prescriptions (as well as new goals, objectives,
guidelines, standards, and desired conditions) for drinking watersheds and impaired waters are implemented in order to accomplish strict preservation and restoration.

Drinking Watersheds

Of the roughly 956,990 acres of GWNF within Virginia, approximately 68,086 acres comprise the watersheds of the five reservoirs that are sources of drinking water for communities and residents.

Approximately 357,788 acres comprise the watersheds for drinking water intakes for communities and residents. The combined 425,874 acres within public drinking watersheds represents roughly 44.5% of all the GWNF land in Virginia. There are additional public drinking watersheds in West Virginia that must be identified and protected/restored.

As a first step toward improved management, the revised Plan must formally identify all the drinking watersheds lying within the GWNF. See the 2008 report prepared by Wild Virginia, "Drinking Water Resources in the George Washington National Forest", available at www.wildvirginia.org.
The reservoir watersheds have been identified in the current Plan, but the river intake watersheds have not. Obviously, these areas cannot be managed directly and appropriately until they have been identified and delineated.
The Forest lands comprising all the drinking-watersheds lying within the GWNF must be classified as unsuitable for timber production, unsuitable for timber harvest, unsuitable for road construction/reconstruction, unsuitable for wind development, and unsuitable for mineral/gas surface occupancy in the revised Plan. In the revised Plan these waterways are accorded greatly expanded "streamside management zones".
The Forest's drinking-watersheds are priority areas for restoration (along with Mountain Treasures and SBAs): where non-critical roads (of maintenance level 1 or 2) are identified and targeted for decommissioning, closure, recontouring, and revegetating. The DCER/DLMP do not address this. And the current Forest-level "Roads Analysis" is insufficient for informing or dealing with this issue. The revised Plan must have guidelines, objectives, desired conditions, goals, and standards for explicitly addressing this significant issue. Roads have multiple negative ecological impacts that need to be fully and fairly considered; see, e.g., Gucinski, H. et al. 2001. As regards the benefits, economic and otherwise, of road closures also see the study Reinvestment in Jobs, Communities, and Forests by The Center for Environmental Economic Development found at www.wildlandscpr.org.

Reference Watersheds
It is not clear that all of the Forest's ecological subsections are represented by the potential listed "reference watersheds"; they should be.
North River RD is almost 3 times the size of the Pedlar RD; there should be more reference watersheds in this RD (NR) to represent conditions. The FS lists only one reference watershed in NRRD (viz., Ramseys Draft).
The FS fails to designate reference watersheds at the Great North Mountain area of the Lee RD (wherein lies the majority of the RD), nor any in West Virginia. This must be rectified.
There must be more reference watersheds than the 5 listed.

North River (Augusta Co.)
The North River corridor and riparian area (in the vicinity of FDR 95) must be cleaned up, restored, and protected. Camping and vehicles should not be allowed here. IT IS DISGUSTING AND REPREHENSIBLE THAT MASS DEFECATION SHOULD BE ALLOWED, AND EVEN ENCOURAGED, IN STAUNTON'S WATER SUPPLY.
"In Municipal Water Supply Areas, when camping and/or vehicles are causing unfavorable effects on water quality, seasonal or permanent closure orders may be considered for within the Streamside Management Zone." (DLRMP – 58)

Sediment
The biotic populations of some perennial streams, and intermittent and ephemeral tributaries, even if a "fishery" may be absent, may be close to or beyond threshold levels of tolerance for sediment. No standard for sediment has been set by the states (VA & WV) so the burden is on the Forest Service. Various Forest Service management activities

result in adding tons of sediment to Forest waters. High sediment loads impair stream populations and productivity (Henley, W.F. et al. 2000).

The GWNF planners must fully recognize, analyse, and address the degradation resulting from erosion and sediment production. The Plan must cease to fabricate and maintain the sources of sediment. This means significant reductions in logging and the closing and revegetation of roads. Direct, indirect, and cumulative impacts of sedimentation are fully and fairly examined in the EIS for the revised Plan. The Plan must also provide Standards and protocols requiring the proper site-specific consideration and analysis of the effects of sedimentation (not trying to mislead about the extent/significance of effects by using an expansive analysis area that dilutes the magnitude of effects).

Wild & Scenic Rivers

There are waterways on the Forest that qualify for designation as Wild, Scenic or Recreational Rivers, but they have not been formally recommended as such to Congress. Some waterways have outstandingly remarkable values that have not been recognized by the Forest Service. Additional stream mileage may qualify for designation.

Officially designated as "Exceptional State Waters" are Brown Mountain Creek, Laurel Fork, Ramseys Draft, Pedlar River, and North Fork Buffalo River (see http://www.deq.virginia.gov/wqs/exceptional.html). The Forest Service needs to evaluate these for inclusion in the WSR system.
There are additional waterways, all of which have sections on the GWNF, that the Forest Service must evaluate for inclusion as Wild, Scenic, or Recreational Rivers: Trout Run, Waites Run, German River, Wilson Creek, Mill Creek (of Maury River), Mill Creek (of Cowpasture River), Potts Creek, Stony Creek (north of Bayse impoundment), Benson Run, Big Marys Creek, Stuart Run (with Buck Lick and Bolshers Runs), Jim Dave Run, Little Back Creek, Crow Run (with Little Crow Run), and perhaps others.

The revised Plan has clear guidelines and objectives for the FS to gain WSR protective status for all the suitable waterways by making recommendations to Congress. All of the stream segments found eligible in 1993, as well as any new additions, should be formally recommended for WSR designation when the revised Plan is adopted. The GWNF planners must redo the WSR evaluations so as to recognize the "outstandingly remarkable values" possessed by Passage Creek Seg. B, Cowpasture River Seg. C, the upper part of Cedar Creek, and St. Marys River Seg. B and recommend these also. Other stream segments on the GWNF are also fully evaluated for inclusion in the WSR system.

Wilderness

The GW National Forest has less federally designated Wilderness than most other National Forests (Johnson 2001; U.S. Forest Service 2000; SAMAB SAA 1996). At the same time, the GWNF currently possesses far more "roadless area" or "potential wilderness area" acreage than other eastern National Forests (SAMAB SAA 1996, USDA FS 2000a, and USDA FS 2008a,b). These relatively pristine roadless tracts offer the ready opportunity for Wilderness designation. In fact, unlike many other National Forests in the East (such as the Daniel Boone (KY), Allegheny (PA), Wayne (OH), or Mississippi National Forests), there is a ready

opportunity here to provide a greater than average legacy of Wilderness for the future that will help to mitigate the lack of opportunities available elsewhere.

During the Plan revision process the Forest Service evaluates all the GWNF Mountain Treasures as potential Wilderness areas. The revised Plan allocates as Wilderness Study Areas around 500,000 acres of new Wilderness (most Mountain Treasures); perhaps some of this acreage could instead be allocated to MP 12C. This alternative will help bring the GWNF into managerial "balance", begin to counterbalance the enormous disproportion of developed anti-wilderness areas in its contextual landscape, and bring it closer to the Wilderness percentage compositions on other National Forests as well as provide a higher percentage to help make up for the severe lack of opportunities in other NFs. In fact, unlike many other National Forests in the East (such as the Daniel Boone (KY), Allegheny(PA), Wayne (OH), or Mississippi National Forests), there is a ready opportunity here to provide a greater than average legacy of Wilderness for the future that will help to mitigate the lack of opportunities available elsewhere. Other feasible alternatives that need to be developed in the broad range are to allocate as Wilderness Study Areas all the "inventoried roadless areas" and to allocate as Wilderness Study Areas all the "potential wilderness areas".

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the body of the email below is the same comment sent previously as an attached word doc (#2)

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CONSERVATION ALTERNATIVE for the GEORGE WASHINGTON NATIONAL FOREST PLAN REVISION
2010

Introduction
Expanding human population and development pressures are the landscape context for the George Washington National Forest and America's other large public land holdings. Tragically, these pressures have forced the GWNF into the unfortunate position of serving as a last refuge for an enormous variety of organisms and the interdependent ecosystems in which they live. Fortunately, these public lands are a case where we still have the tenuous luxury to plan how habitats will be maintained, rather than simply trying to salvage remnants of thoughtless development. The opportunity to develop a proactive, not reactive, strategy must not be foregone. The most comprehensive and balanced direction for America is the implementation of some sort of "wilderness" protection or light-on-the-land custodial management for as much of our public lands as is feasible.
This Conservation Alternative is a proactive, preventative, and restorative alternative to the commodity-focused management and infrastructure that now dominate remnant natural areas such as the GWNF. As such it is solidly based on science, cultural values, economics, and the provision of public benefits. It is also the most fiscally responsible and conservative direction. In essence, it means to accentuate the positive (the possibility for complex, intact, self-sustaining wild forests) and eliminate the negative (human-induced disruptions and degradations to natural ecosystems) where we can.
Restoration of the Forest to its natural dynamic steady-state condition where ecological processes and not machinery create a mix of habitat types is a balanced and fiscally conservative alternative to spending millions of tax dollars on large amounts of artificially fabricated habitat. Continuing the habitat management direction of the current Plan would perpetuate on much of the Forest the simplified and artificial even-aged structure that is the result of past abuses. This model currently in use generates the specious "need" to perpetually spend tax dollars fabricating "early successional habitat" patches

through logging.
A significantly lighter on the land approach is possible and beneficial here. Such a reasonable alternative, that in great part can and should be accomplished without heavy machinery and chainsaws, must be seriously developed and examined in detail. The goal is self-sustaining intact ecosystems needing as little management intervention (in other words: tax dollars) as possible.
In 300 years, less than the life span of many a tree, we have gone from pockets of human development occurring in a matrix of natural landscape to natural areas - habitat fragments - eking out a living in a sea of human development. Now in today's world, islands of habitat like the George Washington National Forest have paradoxically become the genetic source pools of the region. We can, and must, do much better than to treat these critically important areas as mere tree farms, game feedlots, and motorways.
The remnant temperate forests on the public lands of the Appalachians offer a unique opportunity for ecological recovery, an opportunity certainly unmatched in the East, perhaps anywhere in the world. The wild old-growth forests that not long ago naturally blanketed this region have been extirpated, devastated, and dismembered. It's up to us to re-member these forests here and now.
With ever increasing population and development pressures, places to escape to the "sounds of silence" and bask in nature's song are increasingly rare in our landscape. Places to be treasured, they are where the wild things are.
These remote sanctuaries are our natural heritage and a vital necessity for sustaining the health of not only ourselves, but also all that we call home. In a sea of noise and development, this place we call the George Washington National Forest is nothing less than a modern-day Ark, precious and irreplaceable.

In this paper some desired conditions, objectives, guidelines, standards, and supporting background material are provided for use in formulating the revised GWNF Plan. Some of the problems that currently exist are identified, as are suggested recommendations for resolving them.

Current State - Management Context - Forest "Niche"
The Forest Plan basically functions as a zoning allocation that confers different management direction to different land areas. All 1.1 million acres of the Forest are allocated to various "Management Areas" with varying management prescriptions. The conflicting emphases of this zoning scheme lead to a variety of problems. Management actions such as timber sales and their impacts do not occur in isolation. The impacts are overlapping in time and space, and as such are chronic, long-term, and cumulative.
The current Plan contributes to the fragmentation, degradation, and
loss of habitat on the Forest by considering many places to be suitable for disruption and development. Maintaining habitat connectivity and continuity at multiple scales is essential for keeping ecological functions and communities intact. This maintenance of broad ecosystem integrity is critical for terrestrial and aquatic species alike, and especially for those such as amphibians that are biphasic and for species that are "area sensitive". The restoration and preservation of ecological integrity on the Forest (sensu Angermeier, P. 1996) is the driving force of the recommendations in this Citizen's Alternative.
In the terms of landscape ecology, the GWNF exists as a mosaic of

patches (Urban, D.L. et al. 1987). The original presettlement landscape was an interlaced mosaic with a high degree of patch connectivity, a situation quite unlike our contemporary America. The degenerating reality of our present situation demands the maintenance and restoration of an essential component of ecological health: habitat continuity over large areas (Noss, R.F. and A.Y. Cooperrider 1994). The GWNF possesses much of the less fragmented and more remote habitat in the region (Mueller, R. 1991; Bolgiano, C. 1998; Irwin, H. et al. 2002). This Citizen's Alternative builds on and emphasizes this great opportunity. As the area or patch size increases, so too does the probability of a disturbance event in any given year (Harris, L.D. et al. 1996). The GWNF is large enough ("minimum dynamic area") to incorporate a natural disturbance regime and its shifting habitat mosaic (Bormann, F. and G. Likens 1979; Shugart, H. and D. West 1981; Harris, L.D. et al. 1996).

The present landscape context of our National Forest is greatly disbalanced, degraded, and depauperate (see, e.g., SAMAB SAA 1996; Jones, K.B. 1997; USDA FS SFRA 2002; Sanderson, E.W. et al. 2002; Drummond, M.A. and T.R. Loveland 2010; Loveland, T.R. and W. Acevedo 2010). Extensive areas of temperate deciduous forest are of global rarity and significance (Riitters, K.H. et al. 2000). The Forest is embedded in a landscape that is a conglomeration of patches of land bearing a multitude of differing conditions, uses, and intensities of development. Loss of forest cover is ongoing (Drummond, M.A. and T.R. Loveland 2010). Large unmolested forest blocks can be considered as the rarest "patch type" in the region. This impoverishment must be addressed and counteracted. The great majority of the landscape matrix here is developed to various degrees and in private hands, especially small-acreage owners with widely divergent desires and management emphases, which lead to increased fragmentation and/or loss of forest cover.

To help mitigate this pathology of forest loss and fragmentation, the large-scale reestablishment of unmanipulated forest conditions is perhaps the greatest single improvement and assistance to biodiversity and ecological integrity that we can implement (Noss, R. 1990, 1991, 1995, and Soule, M. and R. Noss 1998). At this time, the only opportunities for the protection or restoration of even moderately large unfragmented wildlands in the Central Appalachians are found at blocks of low road-density land in the George Washington, Jefferson, and Monongahela National Forests (see Mueller, R. 1991 & 1994, and Foreman, D. and H. Wolke 1989). The maintenance and restoration of large habitat blocks on the Forest, and their connectivity, must be a priority of the new Plan. Thus, a primary goal of this Citizen's Alternative is to sustain native ecological systems and diversity by allowing for the large-scale re-emergence of the natural multi-aged old-growth forests with their variegated seral stages and disturbance patches (see Davis, M.B. 1996; Franklin, J.F. et al. 2002; Frelich, L.E. and P.B. Reich 2003).

Zoning - Management Areas and Prescriptions

Problem:

The GWNF is currently managed under a conflicting array of "management areas" and "prescriptions" that are counterproductive to achieving long-term conservation goals. For examples, Black Bear habitat is logged and roaded, featured off-highway vehicle routes are gerrymandered into a "special biological area" ostensibly set-up to conserve the Cow Knob Salamander, ATV routes are placed beside sensitive streams and special biological areas (e.g., Peters Mill

Run), and logging sites are placed beside popular recreation trails and adjacent to special biological areas.
It takes a great deal of human subsidy (time, energy, materials, money) to maintain or fabricate the unnatural desired conditions that are the Forest Service's objective in many "Management Areas". The USFS spends around $5-billion a year of Americans' tax dollars. In these days of deficits and stretched-thin budgets, a much more conservative approach is called for to rein in or reduce spending by big bloated government bureaucracies. Management Areas 15 ("Mosaics of Wildlife Habitat"), 16 ("Early Successional Forested Habitats for Wildlife"), 17 ("Timber Emphasis"), and 11 ("All-Terrain/Off Highway Routes") are particularly destructive and must no longer be used on the Forest.

On public as on private lands, protection begins with local land-use planning. So the specific land allocations and management area guidelines are of primary importance on the Forest. What is presented by the Forest Plan to be desirable, suitable, and allowable at specific sites determines which projects happen on-the-ground. Merely claiming a consistency with the guidelines, standards, and DFCs set forth in the Plan is how the Forest Service typically rationalizes a site-specific "need" for a project.
A desire to spend money on expensive projects like timber sales, road construction, and big burns has thus far driven the Forest Service bureaucracy and budgetary allocations. The Plan's prescriptions, guidelines, goals and desired future conditions are conformed to fit the agency's desired actions. This backwards approach manufactures a closed logic loop where harmful projects are "needed" to implement the Plan. This Citizen's Alternative is different. The analyses and syntheses of ecology and conservation biology, as well as on-the-ground ecological reality, determine and direct desired conditions and the actions that are appropriate (cf., Soulé, M. and R.F. Noss 1998).
The GWNF is currently managed under a conflicting array of zones. The current Plan describes and maps 18 Management Areas (GW Plan at page 3-3) that are aggregates of 37 management prescriptions (GW FEIS at appendix page B-70).
To achieve conservation goals on the Forest, certain land uses are clearly unsuitable. But short of leaving all land in its natural state, where to 'draw the line' remains the question. In deciding which management prescriptions to apply and where to apply them, precaution is paramount (1998 Wingspread Statement on the Precautionary Principle).
During the Plan revision process the Forest Service identifies geographic areas that are generally "suitable" or "unsuitable" for various uses/activities deemed to be compatible or not with "desired conditions" (these uses/activities include "timber harvest", roads, grazing, mineral or energy developments, primitive or backcountry recreation, conservation areas, OHV use, etc.). Natural values are jeopardized when places are held to be "suitable" for high-impact ground-disturbing activities (such as commercial logging, roads, or gas/mineral development).
Although what exactly is "natural" may be debatable, some indices of naturalness have been identified, one of which is the amount of cultural subsidy (technological energy and material inputs, i.e., tax dollars) required to maintain the functioning of the system as desired (see Anderson, J.E. 1991, and Sprugel, D.G. 1991).
An overarching theme of this Conservation Alternative is to protect,
nurture, and restore natural conditions on the Forest to as great a

degree as feasible while still accommodating myriads of low-impact recreational uses by human visitors. In other words, allowing natural processes and conditions, not tax dollars, to maintain and restore desired conditions across most of the Forest.

The Forest Service must recognize this option as a viable alternative for restoring and maintaining the Forest's health. It is a fiscally conservative and feasible plan relying heavily on allowing the forest ecosystems to mature, develop, and recover from current unnatural and impoverished conditions.

Resolution:
The FS greatly simplifies management and saves tax dollars by reducing the number of management area allocations on the Forest. This is an efficacious and achievable way to steward the Forest, providing a full spectrum of beneficial desired conditions.
Use of management area allocations that do not emphasize artificially fabricated "desired conditions" will reduce the "need" for future expensive activities, such as money losing timber sales. Some Management Areas and Management Prescriptions used in the current GWNF and JNF Plans can serve as a basis for the revised Plan.
The Management Areas in the current GWNF Plan to use are: MA 1 Minimal Level Management, MA 2 Migration Corridors, MA 3 Sensitive Watersheds/Municipal Watersheds, MA 4 Special Interest Areas (including RNAs), MA 6 Appalachian Trail, MA 8 Wilderness & Recommended Wilderness Study Areas, MA 9 Back Country/Remote Highlands, MA 10 Scenic & Recreational Rivers, MA 12 Developed Recreation Areas, MA 18 Riparian Areas, MA 20 Administrative & Communucation Sites and Utility Corridors, and MA 21 Special Management Areas.
Those Management Prescriptions to use from the current JNF Plan are MPs 0A Custodial Management, 1A Designated Wilderness, 1B Recommended Wilderness Study Areas, 2C WSR Rivers, 4A Appalachian Trail Corridor, 4B Designated and Proposed Research Natural Areas, 4C1 Geologic Areas, 4D Botanical and Zoological Areas, 4E1a Cultural and Heritage Areas, 4F Scenic Areas, 5A/B/C Administrative & Communucation Sites and Utility Corridors, 7D Concentrated Recreation Areas, 9A2 Reference Watersheds, 9A4 Aquatic Habitat Areas, 9F Rare Communities, 11 Riparian Areas, and 12C Remote Backcountry Recreation – Natural Processes.
In the revised Plan the Forest Service greatly increases the use of MA 1 or 0A custodial or minimal level management. All lands currently allocated to MAs 14, 15, 16, and 17 (594,000 acres) are reallocated to MA 1 or MP 0A if not placed in MAs 2, 3, 4, 8, 9, or 21 or JNF MPs 1B, 4B, 4C1, 4F, 9A2, 9A4, 9F, or 12C, or other new, equally or more restrictive MAs/MPs.

The revised Plan greatly increases recommendations of Congressionally designated areas (such as Wilderness and Scenic Rivers), as well as new Research Natural Areas designated by the Chief of the Forest Service. The revised Plan also greatly increases land managed as administratively designated special areas including Scenic Areas, Historic Areas, Potential Wilderness Study Areas, and Special Biological Areas.

Alternative #3, and to a lesser extent Alt. #9, developed for the 1993 GWNF Plan revision and EIS analysis are useful for informing the development of this Conservation Alternative. Also see the discussion, guidelines, and recommendations in the document Our Land, Our Water, Our Home: Ensuring a Healthy Future For Our George Washington National

Forest (previously submitted to the GWNF FS, incorporated by reference). In addition, see the discussion, guidelines, and recommendations in the S. Krichbaum comment letters to the GWNF/FS dated August 8, 2008, September 14, 2008, October 24, 2008, October 30, 2008, January 8, 2009, and June 23, 2009 (all incorporated by reference).

Access for persons with disabilities

We need to do much more on the Forest to positively address this issue. The FS investigates/evaluates having an interpretive and wheelchair access trail like Lion's Tale (Lee RD) on every Ranger District and implements such through the revised Plan.

Acidic Deposition

The GWNF planners must fully and fairly consider and disclose effects of acid deposition on soil productivity, in conjunction with effects of removal of tree biomass (boles) from logging sites, and the affects of these upon nutrient depletion (e.g., calcium), long-term productivity and sustainability, and sustained yield. See Gasper, D. C. 1997, and Rentch, J.S. 2006.

Precipitation in the central Appalachian region is among the most acidic in the United States, and pH readings below 4.0 are common in summer months (Rentch, J.S. 2006; also see air quality and deposition in Central Appalachians in Hudy, M. et al. 2004 & 2008). There is an emerging consensus that acid precipitation accelerates nutrient leaching from forest foliage and the soil profile (Rentch, J.S. 2006). Nitrogen deposition can affect deciduous forest trees and conditions as well as coniferous (Boggs, J.L. et al. 2005 & 2007). For just one implication, these negative and variable impacts must be considered in determining "suitability" on the Forest.

"Forests that may be particularly susceptible to nutrient depletion effects of harvest removals would be those with a large proportion of species such as hickories (Carya), basswood (Tilia americana), oak (Quercus), and yellow-poplar (Lirodendron tulipifera), which store large amounts of calcium in their bole wood (Raynal et al., 1992). Johnson et al. (1988) found significant decreases in subsoil exchangeable calcium due to high uptake rates by the Walker Branch mixed deciduous forest, containing a high proportion of calcium-demanding species. Forests where large amounts of the base nutrients are stored aboveground would be susceptible to base losses from harvesting. Soils that are sensitive to base cation depletion from harvesting include those with low CEC, moderate to low base saturation, those that develop from parent material low in weatherable bases or those that are highly weathered." (Adams, M.B. et al. 2000)

The attributes, factors, and concerns outlined in the preceding quote typify conditions on the GWNF.

Acidification of streams on the GWNF is of course an issue of great concern. See Webb, R. 2004.

As an example, Laurel Run on the Lee RD (site of the 2008 Laurel Road TS in Shenandoah Co.) is already extremely acidic. The chart on pg. 97 of the 2007 draft CER shows an ANC (acid neutralizing capacity) of -40 (a stream is considered "chronically acidic" if ANC < 0). Laurel Run has not been limed since 1997.

Amazingly, this existing condition of Laurel Run and its associated significant and long-term degradation were not even mentioned in the timber sale EA (see EA-23-26). Nor did the FS make even the slightest mention of the extent of acidic conditions at other streams in the project area such as Bear Run, Falls Run, and Bull Run and other tributaries.

Yet the misleading claim was made that these are "cold water habitats" (EA-24). But habitat for what? "[S]treams [that] are 'chronically acidic' [] cannot host populations of [MIS] brook trout or any other fish species." (GWNF 2007 draft CER at pg. 96) The habitat here is already compromised and then the agency decided to add further insult to injury. And not clearly tell the public about the implications of this decision.

The EA also failed to even mention the affects of acid precipitation on soil productivity, site-specific soil nutrient sensitivity and infertile geologies, nor of removal of tree biomass (boles) from sites and the affects of this on nutrient depletion (see "Soil Resources" at EA-16-21).

Trees contain large reservoirs of calcium and magnesium. Removal of the trees from this area that is already highly stressed and degraded has clear implications for the ability of the site to buffer and recover from acidic deposition. This is in addition to the other stresses upon the ecosystem resulting from invasively entering with heavy machinery and altering and removing site conditions. The cumulative impacts of the cutting in conjunction with the current degraded situation may be significant.

This decision was not consistent with Virginia's antidegradation policy (9VAC25-260-30). The Laurel Run site is already degraded ("chronically"). Regardless, the agency decided to decrease acid neutralizing capacity through tree removal and heap on further stress by adding at least 10 tons of sediment to the streams here (EA-25). The cumulative impacts did not receive the requisite "hard look".

The revised Plan ensures that situations such as the above example do not reoccur by considering watersheds with impaired streams (e.g., Laurel Run on the Lee RD) to be "not suitable" for logging.

Air

Air pollutants/contaminants/effects of concern include acidification (acidic deposition), nitrogen and sulfur deposition and saturation, changes in nutrient dynamics (e.g., elevated/mobilized aluminum and increased leaching of base cation minerals), heavy metal toxicity, pesticide toxicity, and visual impairment. For instance, at the ecosystem level, deposition/saturation/acid precipitation has been linked to calcium depletion in the Central Appalachians (Adams, M. B. 1999). The GWNF planners/EIS/revised Plan must adequately address these issues and concerns and provide for long-term sustainability and productivity and sustained yield. The FS planners must fully and fairly address the direct, indirect, and cumulative impacts of acidic precipitation and deposition upon many taxa, such as trees, herbs, lichens, snails, birds, reptiles, and amphibians. For example, acid deposition that causes a decline of soil calcium on poor soils (soils with poor buffering capacity are found throughout the GWNF) could reduce snail populations (Hotopp, K.P. 2002).

Areas of the Forest (James River and Lee RDs) are within or adjacent to ozone (and fine particulate?) "non-attainment areas" (see map in USDA FS 2007 GWNF Draft Comprehensive Evaluation Report at pg. 106).

The adjacent Shenandoah National Park is a Class 1 Air area. The EPA's Regional Haze Rule and Air Quality Policy on Wildland and Prescribed Fire are in effect here on the Forest. Forest management activities are also subject to the General Conformity regulations of the Clean Air Act. Activities must not impede a state's progress toward attainment of National Ambient Air Quality Standards. The Forest must make a conformity determination prior to implementing projects affecting air quality within areas designated as nonattainment or maintenance. - DCER-107 [Unless otherwise noted, in this submission the numerals appearing after dashes following quotes or paragraphs signify pages in the 2007 DCER.]

However, the agency apparently moves ahead with burn projects on the Forest without making conformity determinations (see, e.g., the project file and DM for the 2007 Lee RD burn project). Such decisions are not compliant with federal law, regulation, policy, guidelines, and/or standards. The Plan revision analysis must explicitly address this issue. Through guidelines and Standards, the revised Plan ensures that this situation (viz., failure to make conformity determinations) does not continue on the Forest.

The DCER/DAMS barely address the threat posed by ozone. Where on the Forest is ozone damage most prevalent at present? What areas of the Forest have the most potential to sustain ozone damage in the future? How do "suitability" determinations for various management practices respond to the ozone issue? It is not apparent that the DLMP adequately and properly responds to the issue of ozone pollution/damage on the Forest.
Nor do the DCER and DLMP adequately and properly consider and respond to the threat posed by increased levels of ultraviolet radiation damage on the Forest.

I am concerned about not only the direct and indirect effects of ozone and ultraviolet radiation (such as enabling invasive species, loss of focal species or communities, impacts on lichens and fungi and sensitive tree species, effects on terrestrial, aquatic, and amphibious fauna when key habitat is altered), but also the cumulative effects in conjunction with management actions (such as logging and/or burning) and other factors (such as acidic deposition). I am additionally concerned about the sustained yield of populations and habitat under the potential cumulative impacts that could accrue were the DLMP to be implemented. The DCER and DLMP do not reflect the full and fair consideration of this issue (such as determining areas to not be "suitable" for various management activities due to factors involved with ozone).

ATVs

ATVs are loud and destructive (Wilkinson, T. 2000; S. Krichbaum pers. obs.). Approximately 80 miles of official ATV areas and 160 miles of "Featured OHV Routes" are open to OHV users on the GWNF. The Forest Service reports that user impacts from these OHV routes are significant and that maintaining OHV routes is a considerable taxpayer expense (GW-JNFs 2004 M&E Report at p. 15). This at a time when the Forest Service is proposing closing down many other recreational sites across the country because of budget "shortfalls." Although the Forest Service is required to report on poor route conditions, hazards, and user conflicts, they have consistently failed to do so and have also failed to take effective action to reduce unacceptable impacts.

The FS fully examines and evaluates the option of ridding the GWNF of ATV playgrounds. Such areas should be on private lands so private citizens can gain financial profit.
At the very least, under the revised Plan the Forest Service: reviews the condition of the current official OHV/ATV system and related spillover areas; reviews the inherent environmental problems, resource conflicts, and user conflicts regarding the current official OHV/ATV system and neighboring lands; closes existing OHV/ATV areas that do not conform to the findings of such environmental and resource/user analysis; declines to open any new OHV/ATV areas and OHV/ATV routes; ceases building new permanent roads, so-called "temporary roads", and skid trails that facilitate illegal OHV/ATV use; recontours and/or revegetates existing roads with trees and native vegetation that discourages illegal OHV/ATV use; and blocks vulnerable roads using methods demonstrated to be 100% effective at halting illegal OHV/ATV use.

The Peters Mill Run ATV playground is significantly pulled back and rerouted far from Peters Mill Run, a special biological area.

The Archer area on Great North Mountain in Augusta County is not suitable for ATV use. The revised Plan drops this area from consideration.

The GWNF's Chief Law Enforcement Officer has stated that illegal ATV use is the "number one threat" facing our GWNF and that illegal motorized trespass is an ongoing problem that is not under control (GW-JNFs 2004 M&E Report at p. 19). However, the Forest Service routinely refuses to consider the degree to which its own roads and logging trails facilitate illegal OHV/ATV use when assessing the projected impacts from proposed logging and other projects. Illegal motorized trespass or evidence of such has been observed by citizens at the Potts Mountain Pond and Maple Flats special biological areas; within streams, such as Sours Run; within areas of known habitat for at-risk wildlife (such as Wood Turtles); within unroaded areas at Crawford Mountain, Big Schloss, Slaty Mountain, and Great North Mountain; and in many other so-called "protected" areas on the Forest.

Biocide Applications
The FS planners have thus far failed to adequately and fairly evaluate the direct, indirect, and cumulative effects of biocide applications upon Forest diversity, sustainability, populations, and communities. I am particularly concerned about impacts to amphibians and reptiles. See, e.g., Relyea, R.A. 2005 and Relyea, R.A. 2006. Immunosuppressive effects of low-level exposure to organochlorines have been implicated in pathologies observed in Eastern Box Turtles (Terrapene carolina carolina) (Tangredi, B.P. and R.H. Evans. 1997).

"Recent research on chemical disruptions of the endocrine systems of animals indicates that many common industrial chemicals can have profound and long-lasting adverse effects on many vertebrates species, including humans (Colborn and Clement 1992, Colborn et al. 1993, Colborn et al. 1996, EPA 1997). At this point in time, the Environmental Protection Agency (EPA) has no formal tests or screening processes established for detecting these commercially available hormone-mimicking and hormone-blocking chemicals (EPA 1997). Adverse effects can occur with even miniscule doses (parts per trillion) of some of these chemicals (Colborn and Clement 1992, Colborn et al. 1993, Colborn et al. 1996, EPA 1997). This hormone-mimicking mechanism

has been proposed as a possible explanation for the current, pervasive breast cancer epidemic in western society (Davis et al. 1993). Many chemical herbicides used on PALCO forests have been documented to mimic the female hormone estrogen (e.g., 2,4-D, 2,4,5-T, atrazine; Colborn et al. 1993). These herbicides have also been linked to deformities or mortalities in birds, mammals, amphibians, reptiles, and fish (Hall and Henry 1992, Colborn et al. 1993, Berrill et al. 1994, Berrill et al. 1997). In the absence of studies of any particular chemical which demonstrate that it is not harmful to the species of concern in this HCP/SYP, and in the interest of ecosystem health, the safest approach currently available would be to avoid the use of all of these chemicals." Welsh, H. et al. 1998.

The FS must fully assess and consider avoiding the use of all hormone-mimicking and hormone-blocking chemicals on the Forest. This is a feasible management direction/option.

Cumulative impacts of biocides are a significant concern. See, e.g., Relyea, R.A. 2008.

Indirect effects (e.g., the initiation of deleterious trophic cascades) are also a significant concern. See, e.g., Relyea, R.A. and N. Diecks 2008.

Biomess

The latest proposed plundering of public lands is to cut down and burn forests to generate electricity. Proponents refer to living forests used in this way as "biomass". Disregarded are the public health costs and toxic pollutants, and the carbon released. Ignored are the vast unsustainable amounts of wood needed to feed incinerators and the damage to waters and wildlife habitat.

Burning forest "biomass" is neither "clean" nor "green". The use of private lands for this assault is bad enough. Our public lands such as National Forests are the last places left for us and myriads of other species to escape from noise, development, and pollution.

Apparently, ecological education has drastically failed in our school systems. For there are people who say that if not "used" by people, trees then "go to waste". But there is no waste in ecosystems. When trees die, they gradually recompose into soil, fungi, plants, animals, and other trees. In fact, forest ecologists state that dead trees in many ways are actually more important to healthy functioning forests than are live ones.

The least we should do is protect forests and not turn over public lands to this latest form of burning and looting.

Under the revised Plan, the entire GWNF is "not suitable" for logging to provide fuels for biomass electricity incinerators.

Carbon Sequestration - Tree Growth - Forest Vigor - Old Growth

"In fact, young forests rather than old-growth forests are very often conspicuous sources of CO_2 because the creation of new forests (whether naturally or by humans) frequently follows disturbance to soil and the previous vegetation, resulting in a decomposition rate of coarse woody debris, litter and soil organic matter that exceeds the NPP (net primary production) of the regrowth." (Luyssaert et. al. 2008)

Many ecological, forestry and carbon sequestration models are built upon the premise that trees lose vigor as they age. Numerous EAs issued by the USFS on this Forest refer to the decrease in vigor of older trees at project areas and use this purported decrease as a rational for the "need" to implement logging. The ages of trees referred to by the GW planners as declining in vigor are usually only around 100 years old or even less.

Studies of old trees at latitudinal and altitudinal treelines suggest that this premise may not be true (e.g. Jacoby et al. 1996; Esper et al., 2002). And there is good evidence that the premise may not be true on the GWNF as well.

Neil Pederson, Ed Cook, H. Myvonwynnn Hopton, and Gordon Jacoby (of the Tree-Ring Laboratory, Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY 10964) examined the growth trends of more than 800 oak trees from a dataset composed of white oak (Quercus alba L.) and chestnut oak (Q. prinus L.) distributed from Alabama to Michigan and New York State.

"Results show that growth does not always decline as trees age. In all classes, oaks have shown increased ring widths over the past 150 years. Ring widths have been significantly wider than average since the late-1800s and throughout most of the 20 th century. Remarkably, this phenomenon is observed in the oldest known white oak (1519-1983). This tree experienced increasing ring widths from 1811-1982 when it was 292 to 463 years old. Likewise, the oldest known chestnut oak responded vigorously to a reduction in competition at 410 years of age, following one century of increased growth rates. The oldest yellow-poplar trees have experienced increased ring widths similar to oak. . . .

"Many of the trees in this dataset experienced accelerated growth at 200, 300 and even 400 years of age. Because carbon allocation to stem growth occurs after root and shoot requirements are met (Waring and Pitman, 1985), it is clear that the oldest trees have experienced vigorous growth over the last century. . . .

"Our results also indicate that old oak forests may be active carbon sinks to help reduce the buildup of anthropogenic carbon. Evidence of trees representing three species ≥1/2 maximum known age with accelerated growth lends justification for conservation of the many old, secondgrowth forests in the eastern US landscape. From this data it would appear that growth of 120+ year-old trees will slow only if environmental conditions deteriorate significantly." (Pederson, N. et al. 2005; also see Pederson, N. et al. 2007)

Further, William S. Keeton, of the University of Vermont, studied northern hardwood-conifer forests in the Adirondack Mountains of upstate NY: "Aboveground biomass was significantly ($p < 0.001$) different among mature (165 Mg/ha), mature w/remnants (177 Mg/ha), and old-growth (254 Mg/ha) sites. . . . Our results support the hypothesis that basal area (live and dead) and aboveground biomass can continue to accumulate very late into succession in northern hardwood-conifer forests. Empirical studies suggest there may be more variability in biomass development than predicted by theoretical models. If the data represent a trend of biomass additions in stands well over 300 years of age on some sites, a leveling off would have to occur later in stand development than previously predicted. This would have important implications for our understanding of both the quantity and temporal dynamics of carbon storage in old-growth forests. Forest management approaches emphasizing development of late-successional forest structure yield high levels of carbon storage, offering options for participation in cap and trade carbon markets." (Keeton, W.S. 2008)

"There is a growing body of evidence that forest ecosystems do not

necessarily reach an equilibrium between assimilation and respiration, but can continue to accumulate carbon in living biomass, coarse woody debris, and soils, and therefore may act as net carbon sinks for long periods (12, 57–59)." (Keith, H. et al. 2009)
"Some types of temperate moist forests that have had limited influence by human activities can be multiaged and do not necessarily consist exclusively of old trees, but often have a complex multiaged structure of multiple layers produced by regeneration from natural disturbances and individual tree gaps in the canopy (53)." (Zhou, G. et al. 2006)

How important is the GWNF for carbon sequestration? How important are the sites said to be 100 years old and above?
How are Forest biomass carbon stocks characterized? What are the causal factors that lead to high carbon densities here on the Forest?

How comparable is the potential annual economic value of carbon sequestration by management maximizing carbon storage in the GWNF to revenue from the range of annual timber sales historically authorized for the Forest? See Leighty, W.W. et al. 2006.

The GWNF planners fully and fairly analyse and disclose these issues, concerns, opportunities, and ecological and economic implications involving carbon sequestration in the EIS for the revised Plan. To address this issue of ecological sustainability and forest health, the revised Plan implements a curtailment or significant reduction (e.g., 1 timber sale/year and no more than 125 acres of logging/year) of logging on the GWNF.

Climate Change
In response to ongoing and potential climate change a priority goal/objective/desired condition for the revised Plan is to restore and maintain broad elevational core habitat and corridors throughout the Forest. Identification and mapping of patches and corridors of mature and old-growth forest (contiguous forest containing "core" conditions of mature and/or old-growth forest supplying expansive elevational gradients and anthropogenically unbroken/unfragmented physical links between relatively large patches containing "core" conditions of mature and/or old-growth forest) is accomplished. The retention and restoration of full altitudinal gradients is of crucial importance in order to accommodate faunal and floral population/community shifts upslope to cooler conditions in response to climate change (Graham, R.W. 1988). In the revised Plan, clear and explicit prescriptions/objectives/guidelines/standards provide for this.

These cores/corridors are considered not suitable for logging, road building, drilling, mining, wind turbines, or development. They are priority areas for watershed restoration activities (e.g., decommissioning, recontouring, and revegetating of selected roads). In other words, we ensure that there is no loss of or degradation of habitat within the broad elevational "corridors".

Provision of habitat corridors is not sufficient in and of itself. "It is important to stress once again that no evidence supports the proposition that corridors can mitigate the overall loss of habitat (Harrison 1994, Fahrig 1998, Rosenberg et al. 1997)." (Harrison, S. and E. Bruna 1999) Furthermore, it is crucial that "corridors" not be narrow so as to avoid being overrun with edge effects.

Preferred higher elevation habitat can be lost or fragmented by

rising temperatures or wind development. Such higher elevation habitat is preferred by various species. For instance, surveys in Virginia public forests identified ten species of elevation-sensitive birds (Lessig, H. et al. 2008).

Of particular concern are the cumulative impacts of management actions allowed in the DLMP (e.g., logging and road construction/reconstruction/maintenance) in conjunction with the potential harmful effects of climate change as well as acidic deposition, deposition of other air pollutants, ultraviolet radiation, and ozone.

For instance, the EIS must fully and fairly consider, evaluate, and disclose effects of climate change in conjunction with other impacts upon Brook Trout. Increasingly warm temperatures may significantly diminish Trout populations, habitat, and/or distribution. See Flebbe, P.A. et al. 2006.

The types of management proposed in this Conservation Alternative would increase the resilience of forest ecosystems in the face of climate change.

Fire

Problem:

Of concern is that the Forest Service burning program proposed for the GWNF is an enforced artificial regime that can harm natural forest diversity, conditions, and elements.

It is not clear that the site-specific flora and fauna populations and natural communities found in all the expansive areas proposed for burning are in need of artificial fires. It is not clear what are the damaging effects of past artificial fires occurring on these sites. And it is certainly not clear precisely what scientific data and analyses are being used to substantiate the proposed burning at project sites. Are other management methods to "control succession" or alter vegetation more appropriate?

The Forest Service has greatly increased the acreage of "prescribed burning" (intentional fires) on the GWNF. For the nine years 1986-1994, 5,309 acres were burned on the GWNF, an average of 590 acres/year. For the ten years 1995-2004, 39,552 acres were prescribed burned on the Forest, an average of 3,955 acres/year. For the five years 2000-2004, 23,920 acres were burned, an average of 4,784 acres/year. In the two years 2003 and 2004, 14,291 acres were prescribed burned, an average of 7,145 acres/year.
"The emphasis should be to return the Forest to its natural biodiversity . . ." - 104
This is a laudable goal. However, the FS makes clear in the DCER that the desire is to inflict and perpetuate an artificial fire regime upon the Forest. The rationale for this is opaque, questionable, and contains a great many unknowns, all in addition to the potential harms and damage that the DCER does not address. The need to spend tax-dollars on extending and even exacerbating an unnatural historic fire regime is not apparent.

The FS appears irrationally, improperly, or unreasonably intent on using unnatural conditions (i.e., an anthropogenic or culturally augmented regime) as the "baseline" upon which to base goals,

objectives, and/or desired conditions.

"Wildland Fire Use is one means to restore and maintain that biodiversity." - 104
This is a positive step. However, WFU needs to be applied in areas of the Forest outside of Wilderness Areas. If this is the case, this is a positive step (see DLRMP at pg. 45).

"By increasing the Forest's prescribed fire objective, the Forest can begin to move towards a Condition Class 2 and eventually condition class 1 where we are within the natural historic range of vegetation and fuel composition as the result of more frequent and lower severity fires. An increase objective on using prescribed fire, particularly in those areas where the current ecosystem condition has departed markedly (Fire Regime Condition Class III) from historic reference conditions (FRCC I) and where Wildland Urban Interface (WUI) meets National Forest managed lands." - 104-105
Again, the problem is the FS' use of a "natural historic range of vegetation and fuel composition" and "historic reference conditions" that are an artificial baseline that resulted from intense and widespread human alteration of forest conditions ("1730s to 1900s" - DCER).
The FS must analyze increased/expanded WFU as an alternative to spending tax dollars on prescribed fires.
The FS must clearly define and disclose how WUI areas are determined. WUI areas must be clearly disclosed on a map.

"75. If a fireline is needed next to a wetland, it should be located in the upland vegetation zone and not in the wetland ecotone, except to tie into a natural firebreak.
"FW-141: Existing barriers, e.g. streams, lakes, wetlands, roads, and trails, should be used whenever possible to reduce the need for fire line construction and to minimize resource effects." (DLRMP – 69)
These guidelines are contradictory and, if followed, would needlessly
incur harmful impacts. Streams should not be used as fire barriers as then riparian areas and other conditions (i.e., wetland ecotone areas) that perhaps should not be subjected to fire would be burned. These guidelines also indicate the current common occurrence of burning mesic areas on the Forest instead of Yellow-Pine communities.

"For purposes of this analysis, the amount and distribution of the Yellow-Pine community is most likely to be influenced by . . . absence of fire . . ." (DCER-43)
"More than 85% of the Y-P stands on the GWNF are over 80 years old." - 43 - "no more than 3% has burned over the past 15 years" - 43
If Yellow Pine communities are of concern, then why aren't prescribed burns restricted to or concentrated in these sites? Instead, the FS is burning riparian areas and vast tracts of mesic hardwoods.
Yet the FS asserts "not enough prescribed fire is occurring Forestwide" - 43
In actuality, the problem is that the burning is NOT "targeted at restoring the yellow pine community". The FS must do this instead of burning moister deciduous habitat used by biota such as salamanders and Wood Turtles.
Indeed, for the Yellow Pine community the agency admits to "Lack of prescribed fire specifically targeted at restoring this community type . . ." - 48

Prescribed fires are currently NOT confined or limited to fire

dependant ecosystems on the GWNF. The FS commonly sets fires in mesic hardwood sites. The FS has not been following/implementing their purported priority.
The revised Plan contains objectives/ guidelines/ desired conditions/ standards that explicitly focus and target the great majority of prescribed fires on restoring the Forest's yellow pine communities.

The treatment meted out to the Cow Knob Salamander serves as an example to be avoided. According to the 1994 CKS "Conservation Assessment – Management Measures": "The Cow Knob salamander must be actively protected against taking and killing by humans, except for specified scientific purposes. . . . fires occur predominantly on drier sites where the Cow Knob salamander is absent. Therefore, controlled burns on dry sites supporting rare plants and unique natural communities appear to be compatible with salamander conservation."

However, the 2007/2009 proposed burns on the Lee RD and the 2010 proposed burns on the North River RD are not confined to drier sites with rare plants. Mesic sites, including drainages, north slopes, and riparian areas, and sites with ground cover used by salamanders are proposed for burning (see maps). The 2010 NRRD burns are even proposed within the Shenandoah Crest SIA, so CKSalamanders may obviously be present; this "extraordinary circumstance" was ignored by the RD planners (see DM). The decisions (DMs for "categorical exclusions") were not consistent with the 1994 Conservation Assessment for the CKS (see Mitchell, J. 1994).

In addition, at present sites with salamanders and other sensitive taxa may be routinely subjected to intense ground disturbance by fabrication of fire control lines with dozers. The scoping letter, DM, and maps for the Lee RD projects did not disclose which lines were to be constructed in such a way, or where. Such construction may directly kill salamanders, destroy habitat, create additional habitat fragmentation, increase forest edge, facilitate invasive species, and provide for illegal motorized access and attendant harms (e.g., poaching).

Under the Standards and guidelines in the revised Plan, fire control lines are not fabricated with dozers except in an emergency situation where necessary to save human life.

Many of the concerns and issues expressed elsewhere in this paper for logging apply as well to burning of habitat (e.g., microclimate alteration). Just as with logging, prescribed burning operations may significantly harm biota and/or ecosystems directly, indirectly, and/or cumulatively. As does intensive logging, burning alters the microclimate of the forest floor and alters microhabitat conditions (localized structural and compositional attributes). It serves to simplify niche complexity by removing woody and leafy material from the forest floor. Cover and food used by species such as the Wood Turtle can be destroyed, diminished, or altered.

And of course wildlife themselves may be incinerated. For example, at sites previously burned on the GWNF Wood Turtles and Box Turtles have been encountered which had rekeratinized shell mutilations suggestive of long-term recovery from burns caused by fire (S. Krichbaum, pers. obs.; Akre and Ernst 2006 observed similar damage). Of concern are the impacts to the viability of local populations of these species and other slow/small/vulnerable fauna as a result of intentional burns.

A chief rationale for much of the current and proposed burning is

to
reduce so-called “hazardous fuels”. Much of what is commonly referred to as “fuels”, forest ecologists know as woody debris. This material is the dead wood and trees that are essential for and characterize healthy forests. “Fuel” also includes the forest floor litter and humus. All this material is also commonly known as “food’, “cover”, or “habitat” for a wide variety of organisms including vascular and nonvascular plants, invertebrates, vertebrates, bacteria, protists, and fungi (McMinn, J.W. and D.A. Crossley 1996). It is an integral part of the compositional, structural, and functional diversity of healthy forests. Fires consume woody debris (Van Lear, D.H. 1996). Litter amounts can also be significantly lower in burned plots (Waldrop, T.A. et al. 2007, Greenberg, C.H. and T.A. Waldrop 2008, and Elliot, K.J. et al. 2004).

Diminishment, removal, or absence of woody debris, litter, and humus has a dramatic impact on organisms that depend on them for food and shelter, as well as their predators (see McMinn, J.W., and D.A. Crossley 1996). In addition, woody debris contributes to soil fertility and increases moisture retention capacity throughout decomposition. Moisture retaining logs also serve as fire breaks as well as shelter for wildlife should a fire occur.

Burning can make sites hotter, drier and more open and exposed (to sun, wind, and predators). The decay process generally tends to mesify microsites, while fire tends to xerify microsites (Van Lear, D.H. 1996). Burns dry out the very conditions upon which the Forest Service has claimed that species such as Wood Turtles depend. Soil moisture is an important abiotic factor affecting the local diversity of soil fauna, such as snails (Martin, K. and M. Sommer 2004).
The incineration of forest material (viz., woody debris, litter, humus) not only directly destroys many small creatures, but also significantly alters the site quality for a great many other species, such as Wood Turtles and salamanders. For instance, fire can have a negative impact on important components of habitat, such as leaf litter, thus degrading mesic micro-habitats (Ford, W.M. et al. 1999).

Invertebrates that live in the forest floor litter, topsoil, and “fuels”, such as snails, slugs, millipedes, worms, and arthropods, are a significant component of forest diversity (see, e.g., McMinn, J.W. and D.A. Crossley 1996). Snail assemblages and densities are positively correlated with litter composition and depth (Martin, K. and M. Sommer 2004). Litter-related habitat characteristics also influence the composition of other soil faunal groups in forests, such as earthworms and carabid beetles (id.). “[P]lots in which salamanders were captured, harbored significantly higher numbers of snails than plots in which salamanders were not captured.” (Harper, C.A. and D.C. Guynn 1999)

The concern is about significant impacts resulting from the burns to the viability and distribution of species/populations/communities with limited mobility (see, e.g., Santos, X. et al. 2009 regarding negative effects to mollusks). Past experience with burns on the National Forest indicates that a managerial criterion of success for a burn is when a substantial proportion of the duff and leaf litter are incinerated. How long does it take litter/duff/soil populations to recuperate, reinvade, reestablish, and/or recover after they are suppressed by fire? Does burning on short time periods (e.g., 5 years or 15 years or 25 years or more) allow them enough time to recover? Are their populations being chronically suppressed due to an accumulation of impacts over time?

Prescribed fires on the Forest are often implemented through ignitions around the perimeter of the burn area. And on top of these multiple ignitions, the interiors of burn sites are also ignited. See, e.g., 2007 Lee RD burn project DM-10: "Boundaries of the area may be ignited with drip-torches followed by strips through the interior to complete burning out the area." Small and/or slow moving animals have negligible chances to escape when thus surrounded, and even large and/or swift movers can become confused and trapped by a wall of flames that is seemingly in every direction.

Perimeter and/or interior burns kill wildlife of public interest. The ethical underpinnings for intentionally incinerating sentient beings for any reason are certainly questionable. But it is particularly heinous when the incineration is done in such a manner that could not be worse if calculated or that could be avoided or that is unnecessary or that is done simply to achieve some floristic composition that somebody deems desirable.

This is a significant issue, as well as an issue of controversy. Yet the DCER failed to address it in the slightest. What is the agency's rationale for concentrating on some variable floristic composition pre- and post-burn, but showing no apparent concern or consideration for the killing of numerous animals during the fire? This is an ethical issue with on-the-ground ramifications. It is also an issue involving important values held by the public. This concern with controversial and uncertain aspects must be fully and fairly evaluated. See Strohmaier, D.J. 2000.

Burning can promote the spread of invasive plant species (Glasgow, L.S. and G.R. Matlack 2007b). On the GWNF in Virginia, sites that have been burned repeatedly are overrun with invasives (pers. obs. Krichbaum, S. 2007; see, e.g., areas adjacent to the Shenandoah River on the Lee RD).

Resolution:

Any burning should be confined to specific sites where it is indubitably ecologically needed in order to sustain the natural community there, e.g., fire-dependent plant communities (it is not clear that all yellow pine communities necessarily qualify). Or limited-scale precise areas where it is appropriate to benefit rare species, such as at dry scrub pine – oak- heath communities with Variable Sedge.

A lighter on the land approach is possible and beneficial here on the Forest. Such reasonable alternatives need to be seriously examined. These can and should be accomplished without heavy machinery entering (and the construction of control line routes) and without burning of the material which enriches the sites and benefits visitors across a broad 19,125-acre area such as was proposed in 2006 on the DRRD. The revised Plan focuses prescribed burns on the small sites and specific communities that actually need them.

If full and fair analyses indicate fires are needed, the revised Plan allows some lightning ignitions to burn more acreage on the Forest.

Anthropogenic Habitat & Forest Fragmentation/Fracturization/Perforation - Edge Effects

Problem:

The Forest Service's stance toward analysing the affects of their roads, timber sales, and other actions is a betrayal of science and reason. The agency relies upon the use of "forest cover" to evaluate large-scale fragmentation (see JNF FEIS 3-122-123). Use of this

rationale denies the very concept and significance of fragmentation - that it is not just the amount of habitat that is lost or altered, but also the distribution of that loss or alteration. It further ignores the cumulative fragmentation that occurs at scales other than the "large".
The FS has thus far failed to recognize the significance of the internal fragmentation (Harris, L. and G. Silva-Lopez 1992) from roads, logging, utility corridors, and other openings that perforate the Forest. The discussion in innumerable GWNF EAs confines the analysis of affects to habitat just to "the number of acres cut." But this is not sufficient as current scientific knowledge recognizes a potential 600-meter edge effect. This edge effect (e.g., increased predation) extends into the forest from the roads and cutting sites. Edge effects accumulating throughout the Forest have not been thoroughly and explicitly addressed. Edge effects and fracturization/fragmentation are "forest health" issues.

The effects of fragmentation are multifarious and multi-scalar (Fahrig, L. 2003; Saunders, D.A. et al. 1991). Many of the management actions implemented, promoted, or allowed by the FS and/or the Forest Plan (e.g., logging cuts, roads, firelines, utility developments) entail the fabrication of edges and result in edge effects on the Forest. However, "[t]he hypothesis that increasing edge habitat increases species diversity and abundance may be among the most widely accepted and broadly applied guidelines in wildlife management that has not been rigorously tested or evaluated." (Sisk, T. and N. Haddad 2002)

Invasion by organisms abundant in the matrix is also frequently implicated as the cause of ecological change in fragmented/fractured habitats. "Fragmentation of forests may lead to changes in ecological processes, reduction in biological diversity and the spread of invasive species from disturbed edges. Even small openings may introduce these impacts deeper into the forest. . . . About half the fragmentation consisted of small (less than 7.3 hectares) perforations in interior forest areas." (Tkacz, B. et al. 2008) Also see With, K.A. 2002.

"The regional-scale loss of interior forest in Appalachia is of global significance because of the worldwide rarity of spatially extensive temperate deciduous forest (Riitters et al. 2000)." (Wickham, J.D. et al. 2007)

The failure by the GWNF planners thus far to sufficiently deal with harmful fragmentation and edge effects on the Forest (see DCER and DLMP) is particularly unreasonable given that numerous researchers point to the significance of such impacts. Habitat fragmentation or edge effects not only affect birds, but also amphibians, reptiles, herbaceous species, invertebrates, etc.; see, e.g., Ness, J.H. and D.F. Morin 2008, Matlack, G. 1994b, Graham, M.R. 2007, and Flint, W. 2004. For further example, amphibians may be particularly affected by fragmentation and/or edge effects since they "generally have lower rates of movement per generation than invertebrates, mammals or reptiles (Bowne and Bowers, 2004)." (Cushman, S.A. 2006)
Though intimately related, habitat fragmentation is not necessarily synonymous with forest fragmentation (Franklin, A.B. et al. 2002). Some species, such as White-tailed Deer or Red Maple, can successfully exploit many forms of anthropogenicly disturbed habitat and/or fragmented forest. In this sense, as their habitat is not fragmented, they benefit from forest fragmentation. Similarly, habitat spatial pattern is conceptually separate from the sheer amount of habitat available (Eigenbrod, F. et al. 2008; Franklin, A.B. et al. 2002;

Villard, M.-A. et al. 1999; McGarigal, K. and W.C. McComb 1995; Harris, L. and G. Silva-Lopez 1992; Flamm, B.R. 1990). Measures of both are simultaneously needed to accurately characterize suitable habitat and management impacts (Fortin, M.-J. et al. 2003). For instance, scientific research on a Wyoming National Forest determined that cutover sites and roads affected 2.5 to 3.5 times more of the landscape than the surface area occupied by the actual cuts and roads themselves (Reed, R. A. et al. 1996).

Timber cuts, roads, development, and other conversion of habitat result in the fabrication of ecological edges with a multitude of deleterious impacts. Edge width or depth/distance of edge influence (DEI) is the result of the penetration distance of various environmental variables and gradients (e.g., soil temperature, air temperature, litter moisture, photosynthetic active radiation effect on vegetation patterns, alien plant species invasion, and ingress by herbivores or predators) (Zheng, D. and J. Chen 2000).

"The configuration of edges is largely determined by human-induced disturbances including timber harvesting, agricultural expansion, and urbanization. . . . In all these landscapes [including the Chequamegon NF], the area of edge influence has the potential to be a dominant component of the landscape. . . . Different fragmentation patterns can result in varying amounts of edge in the landscape. About 70-81% of these landscapes [including the Chequamegon NF] are still described as forest, but the amount of forested area falling within 60 m of edges is 34, 24, 33, and 56%, respectively. . . . Additive effects from two or more edges may influence the core area (Table 1) in fragmented landscapes and therefore be particularly important for conservation." (Harper, K.A. et al. 2005)

"Harrison & Bruna (1999) suggested recently that most effects arising from habitat fragmentation were driven by edge effects. Thus, understanding the effects of habitat fragmentation will require understanding edge effects, which will ultimately require understanding how multiple edges influence edge responses. . . . multiple edges could influence not only the magnitude but also the extent of edge effects (i.e. the distance/depth of edge influence, DEI; Harper & MacDonald 2001)." (Fletcher, R.J. 2006) Also, the types of land uses within the overall landscape may in part determine predation rates (Rodewald, A.D. 2003). For instance, much of the GWNF is adjacent to or interspersed with agricultural operations and residential development.

Over twenty years ago, Stanley Temple, after studying depredation of turtle nests, voiced concern about increasing the amount of ecological edge in an area: "Because many of the potential predators on turtle nests are edge-inhabiting species, their densities typically increase in fragmented habitats (Harris, 1984). Furthermore, in a severely fragmented habitat, it may become difficult or impossible for turtles to lay their eggs far from an edge." (Temple, S.A., 1987)
In 1988 Wilcove also voiced concerns about the impacts of edge-dwelling predators: "Non-feathered, nonfurred animals, such as reptiles, amphibians, and most invertebrates, have received very little attention in studies of forest fragmentation in the East. I predict that forest-dwelling species requiring two or more habitat types or a range of micro-habitats will prove to be quite sensitive to fragmentation (Wilcove et al., 1986). Examples would include salamanders and tree frogs that require ponds for breeding and woodlands for food and shelter, and snakes that require hibernacula in addition to foraging and breeding habitat." (Wilcove, D. 1988) Wood

Turtles also fit this description since they are relatively small creatures who require foraging and breeding habitats as well as hibernacula, and move between woodland and aquatic habitats. Wood Turtles and other species are known to use human-modified habitats such as roadsides and embankments for nesting and other behaviors. This makes them vulnerable to generalist predators that have increased in the human-dominated landscape and that regularly use modified habitats (see Mitchell, J. and M. Klemens 2000, Marchand, M.N. and J.A. Litvaitis 2004, and Litvaitis, J.A. 1993). Due to human subsidy (e.g., garbage), habitat alteration (e.g., increases in ecotonal edges and roads), and extermination of large predators (e.g., Cougar and Gray Wolf), populations of many meso-predators such as Raccoons have markedly increased in the East (Engeman, R.M. et al. 2005; Mitchell, J. and M. Klemens 2000; Ripple, W. 2009). As far back as 1988, it was estimated that Raccoon numbers in the United States were fifteen to twenty times higher than they were in the 1930s (Sanderson, G. 1988).

Roads, utility corridors, openings and other developments, and the logging projects (which usually include some type of road construction and/or reconstruction) implemented by the Forest Service serve to increase edge and facilitate ingress and impacts from meso-predators such as Raccoons, Skunks, and Opossums (see "subsidized predators" in J. Mitchell and M. Klemens 2000). These species are known to predate Wood Turtles and other species (Mitchell, J.C. 1994b). And the affiliation of Raccoons with stream corridors is well known (Spackman, S. C. and J. W. Hughes 1995). The FS realizes that forest cutting will facilitate increased depredation in project areas by these small predators: see, e.g., "increase predation" and "resulting edge" at EA-44 and "additional woodland edge" at EA-54 of the 2008 GWNF Laurel Road timber sale Environmental Assessment.

The impact of depredation upon just one species, the Wood Turtle, cannot be overemphasized. It is believed that many of the smaller predator species have experienced great population increases due to direct and indirect human subsidy (see Mitchell, J. and M. Klemens 2000). Predation pressure is having devastating impacts upon nesting success and subsequent recruitment throughout the Wood Turtle's range at various site conditions (see, e.g., James Harding pers. com. 2007, Siart, L. 1999, Brooks, R. et al. 1992, Hunter, M. et al., 1999, Harding, J.H. 2002, Paradis, S. et al. 2004, and Bowen, K.D. & J.C. Gillingham 2004 – see citations in WT appendix).

Abundant populations of generalist predators (such as Racoons and Skunks that affiliate with edge habitats) have become a concern among conservation biologists and controls may be necessary in some areas (Garrott, R.A. et al., 1993; Congdon, J. et al., 1993; Engemann, R.M. et al. 2005). However, taking such actions is fraught with difficulty and has undesirable ecological consequences. An alternative approach is to manage landscapes in order to reduce predator impacts (Schneider, M.F. 2001). In other words, halt the fragmentation of habitat where we can and restore more natural conditions to places that have been developed in the past (through such actions as road obliteration and revegetation).

We are concerned about the sustained yield and sustainability of unfragmented/unfractured/unperforated habitat [or whatever the FS chooses to label this] for various taxa (for examples, see those mentioned in above discussion) and unfragmented/unfractured/unperforated forest conditions. We are concerned about the direct, indirect, and cumulative impacts of Forest management activities that diminish the sustained yield and

sustainability of unfragmented/unfractured/unperforated habitat for various taxa and unfragmented/unfractured forest conditions. We are concerned about the direct, indirect, and cumulative impacts of Forest management activities that diminish the sustained yield of "interior" and/or "remote" habitat (from anthropogenic edge effects resulting from mechanisms such as logging or roads) for various taxa (e.g., warblers, herbaceous plants, carnivorous mammals). See also discussion under "Ovenbirds" below. We are concerned about the direct, indirect, and cumulative impacts of Forest management activities that result in edge effects. Of concern also are the direct, indirect, and cumulative impacts of Forest management activities upon area-sensitive species. We are concerned that the effects of management are such that the compositional, structural, and functional diversity of the Forest's ecosystems are NOT "at least as great as that which would be expected in a natural forest" (in violation of the NFMA).
Ecological sustainability/diversity and anthropogenic habitat and forest fragmentation/fracturization/perforation (including edge effects) must be fully and fairly considered and analysed in the Plan revision analysis/EIS. In Krichbaum v. Kelley, 844 F. Supp. 1107, 1116 (W.D.Va. 1994) the court held that general issues of forest fragmentation and edge effects were more appropriately addressed at the plan-level stage rather than at the project-level stage (regarding a preliminary injunction to stop a site-specific timber sale project). Regarding issues and concerns (and extensive citations) involved with these factors, see the appendix attached herein, as well as the previously submitted S. Krichbaum comment letters dated June 23, 2009, Jan. 8, 2009, Oct. 30, 2008, Oct. 24, 2008, Sept. 14, 2008, and Aug. 8, 2008 (all incorporated by reference).
Have the GWNF planners formally contacted and consulted with Forest Service researcher Mr. Riitters regarding fragmentation on the GWNF and ways to evaluate, consider, and disclose it? If not, Riitters, then whom?

Even if the FS does not consider there to be fragmentation on the Forest (see DCER at pg.), it still must deal with the impacts of edge effects. The impacts of deleterious edge effects translate to a form of habitat loss or reduction for various taxa (Harris, L.D. et al. 1996). The ecological footprint of edge effects and this concomitant habitat loss and degradation must be fully considered, analysed and disclosed in the EIS for the revised Plan. Due to the multitude of mechanisms resulting in edge effects, the quantity and quality of these impacts are significant.
Much of the fragmentation of core forest in the eastern US is attributable to small (less than 7.29 ha) perforations (Riitters, K.H. et al. 2002). Aside from direct habitat loss, these result in habitat degradation from edge effects. The "perforations" (on the Forest that result in habitat fragmentation/fracturization and/or edge effects are not just areas of non-forest such as roads, utility corridors, developed sites, or maintained openings, but also include the areas of mature forest and old-growth forest that are/have been intensively logged (i.e., by even-age methods). Many of these perforations (or "openings in the canopy") are not evident on or portrayed by land cover maps generated from satellite imagery (Riitters, K.H. 2007). These altered sites modify the permeability, composition, structure, and/or functionality of the landscape and result in habitat loss, degradation, fracturization, and/or fragmentation that may last many decades for various taxa. These losses, degradations, perforations, fracturization, and/or fragmentations of "late successional habitats" are overlapping (in time and space) and cumulative, even if some of them are, as the FS labels them, "temporary". Even if the FS persists

in considering these chronic habitat modifications "temporary", they or their effects last for decades (perhaps until the site is again "mature" or "old growth" or "late successional"); for various species of salamanders, herbaceous plants, and birds the negative effects last at least for the duration that the revised Plan will be in effect.
The FS revision planners must in some way identify, quantify, measure, analyse, and map the amounts and spatial distribution of the logging effect zone on the Forest. For example, use all the areas that have been logged in the last 80 years (the general age where forest is said to reach maturity) on the Forest (particularly the even-age sites and group selection cuts) and the area within 100 meters extending out from the borders (edges) of all these sites and evaluate and analyse the amount and distribution of this pattern of fragmented/fractured mature forest.
This analysis must also be then synthesized with the amounts and distribution of the fragmentation/fracturization (including edge effects) resulting from the road system and other non-forest openings (e.g., utility corridors, developed sites, and maintained openings) to get a picture of the overall fragmentation/fracturization taking place on the GWNF. Researchers found that even a narrow edge effect zone (e.g., 35-74 meters) means that a large area of National Forest can be degraded or unsuitable habitat for species such as salamanders or herbaceous flora (Semlitsch, R.D. et al. 2007, and Matlack, G.R. 1994; see also Graham, M.R. 2007, Flint, W. 2004, and Flamm, B.R. 1990). The extent and degree to which roads and other perforations serve to act as barriers, alter the permeability of the landscape, inflict deleterious edge effects, and/or reduce/degrade accessible habitat must be fully considered, disclosed, analysed, and evaluated (see, e.g., Eigenbrod, F. et al. 2008, Zheng, D. and J. Chen 2000, and Forman, R.T. 2000).
This has clear on-the-ground implications and applications. Without the full and fair consideration, evaluation, qualification, and quantification of the above relevant factors/issues (i.e., the existing situation or baseline conditions), the formulation of objectives, goals, desired conditions, guidelines, standards and management prescriptions/areas is neither well-informed nor reasonable and is an abuse of discretion on the part of the agency. Public participation in the decision-making process is thereby thwarted. Implementation of a LRMP uninformed by the in-depth analysis of these significant issues/potential impacts would violate the NFMA, MUSYA and NEPA.
In the analysis of edge effects, the Forest Service should use a range of various spacial scales (e.g., 10-, 30-, 60-, 100-, 200-, 300-, 500-, 800-meters) and temporal periods (e.g., 10-, 30-, 50-, 70-, 100-years) in order to assess the quality and quantity of edge effects on the Forest; this will reflect/represent varying edge penetration distances and the differing sensitivity of different taxa. See Didham, R.K. 2007. See also Fletcher 2006, Zheng & Chen 2000, Sisk, Haddad, & Ehrlich 1997, Fernández et al. 2002, Honnay et al. 2002 & 2005, Sisk and Haddad 2002, Harper et al. 2005, Fischer and Lindenmayer 2007, and Matlack 1993.
"Our multi-scale analysis accounts for variability in the penetrating distance of the different edge effects reported in the literature." (Wickham, J.D. et al. 2007 op cit.) For instance, orientation or aspect influence microclimatic variables within forest edge (Matlack, R.M. 1993). Also see Schlaepfer and Gavin (2001) who contend that abiotic and biotic conditions are unlikely to be consistent among forest edges because variation as a function of distance and magnitude likely is affected by landscape variables.
For example, regarding Central Appalachian salamanders: "Because of

high moisture levels, salamander populations may be less sensitive to habitat alteration in mesic forests relative to more xeric forest types (Petranka et al. 1993; Petranka et al. 1994; Ford et al. 2002b). Similarly, our modeling efforts suggest that edge effect magnitude is influenced most by landform attributes associated with moisture, particularly aspect. . . . because of diverse topography throughout the Appalachian Mountain region, forest edge effect magnitude may be exacerbated when located on southwesterly slopes." (Moseley, K.R. et al. 2008)

Roads and their edge effects associated with vegetation manipulation may have significant harmful direct, indirect, and/or cumulative impacts upon salamanders, turtles, Black Bears, birds, herbaceous flora, and other taxa and communities.

This translates into habitat degraded or lost (a road effect zone or ecological footprint). This may have a disproportionate effect depending on where these roads and their zones occur since animal home ranges are clumped, which is linked to the clumped spatial distribution of food resources as well as habitat use by others of the same or different species.

Another factor not properly or adequately considered is that even if the logging results in patches of temporarily improved habitat (e.g., a short-term flush of soft mast growth), Black Bears may avoid using this habitat and others since it is associated with roads (Reynolds-Hogland, M.J. and M.S. Mitchell 2007).

Black Bears have been found to avoid relatively low traffic volume gravel roads (many such roads are on the GWNF); the negative effects of gravel roads on habitat quality occurred over a large spatial extent. This avoidance zone varied with sex, age, and season, but "[o]verall, bears avoided areas within 800 m of gravel roads." (id.) A significant and very large proportion of the GWNF is within 800 meters of roads.

For Ovenbirds, a "ubiquitous distribution of roads through forested areas potentially represents a significant cumulative reduction in abundance of the species (Rich et al. 1994). If edge effects extend 150 m from roads and other human-made openings, 40% of the forested area in the northern half of the GMNF may represent lower-quality habitat for Ovenbirds. Roads themselves account for more than 50% of the edge area in the region. . . . diminished productivity would limit the forest's capacity to function as a population source for forest fragments outside the GMNF that are population sinks (Pulliam 1988). As private lands become increasingly susceptible to subdivision and development, public lands such as the Green Mountain National Forest will become more important sources of contiguous forest habitat needed to sustain populations of forest-interior species (Askins 1994). Our study suggests that even narrow forest roads should be viewed as sources of habitat fragmentation that exert negative effects on the quality of habitat for forest-interior species such as the Ovenbird." (Ortega, Y.K. and D.E. Capen 1999) (emphasis added)

As regards Cerulean Warblers: "High rates of predation and brood parasitism often accompany habitat loss and fragmentation, especially in forested landscapes interspersed with agricultural lands and grasslands (Hoover and Brittingham 1993, p. 234; Brittingham and Temple 1983, pp. 31-34; Faaborg et al. in Martin and Finch 1995, p. 361). . . .

"Studies on cerulean warblers have concluded that increased distance

from edge was a significant positive predictor of cerulean warbler territory density (Bosworth 2003, p. 21; Weakland and Wood 2002, p. 505). The reason for decreased cerulean warbler density near edges is not known, but may be a result of lower availability of suitable or optimal habitat near edges, or edge habitat avoidance, possibly as a result of increased predation pressure or other factors. The effects of fragmentation are likely to be context-dependent, where increasingly fragmented landscapes lead to decreased reproductive success due to increased predation and brood parasitism (Donovan et al. 1995, p. 1393). Specifically, Donovan et al. (1995) found that nest failures of three forest-nesting, neotropical migrants (ovenbird (Seiurus aurocapillus), red- eyed vireo (Vireo olivaceus), and wood thrush (Hylocichla mustelina)), were significantly higher in fragmented forests than in contiguous forests." (USFWS 2006)

"I took soil samples along transects leading away from the edges of unpaved roads in the Cherokee National Forest in the Southern Appalachian mountains of the United States. Roads significantly depressed both the abundance and the richness of the macroinvertebrate soil fauna. Roads also significantly reduced the depth of the leaf-litter layer. These effects persisted up to 100 m into the forest." (emphasis added) (Haskell, D.G. 2000)

Roads also negatively affect salamander distribution See e.g. Marsh, D. M. 2007 and Semlitsch, R.D. et al. 2007.

Grazing - Field/Opening Maintenance

The FS apparently intends to maintain "pastoral settings" with cattle grazing on the Forest and allow degradations to continue to occur (see DLRMP). The five allotments on the Forest "are currently being grazed with varying degrees of riparian protection or animal access to stream channels." (DCER - 137) The cattle are not kept out of Cedar Creek ("no controls"), nor at one of the Shenandoah River sites: "unsuccessful attempts have been made at the Culler allotment . . ." (DCER - 137-138)

"The existing four grazing allotment plans are revised over the next 10 years." (DLRMP – 55)

This is entirely inadequate. Why must we wait another 10 years for something to be done about the harms occurring from grazing? This situation has been going on for years and now instead of forthrightly dealing with it the agency is sweeping it under the rug again. Dealing with intolerable situations on the Forest is one of the reasons a Plan revision is needed and one of the issues the FS is supposed to address.

These harms should have been stopped years ago. The revised Plan implements a cessation of grazing permits on the GWNF.

Utilizing mowing on the Lee and North River RDs can harm or conflict with Wood Turtle populations - see Saumure, R.A. et al. 2007, and Saumure, R.A. and J.R. Bider 1998. This concern applies not only to agricultural fields or pastures, but also to maintenance of "wildlife" openings, "savannahs", camping/recreation areas, and grassy roadbeds; a dreadful example occurred recently (2008) nearby the Hawk camping area on the Lee RD (mowing and dozing/scraping during the Turtle's terrestrially active season at a precise location where I have observed them in the past).

Also see: "A management scheme to delay harvesting [of fields] until

turtles have entered aquatic habitat for hibernation is advised for other locations." (Castellano, C.M. et al. 2008)

Utilizing mowing, such as at Hidden Valley and at "wildlife openings", can also significantly harm Box Turtle (Terrapene carolina) populations: "We believe harvesting agricultural fields (e.g., alfalfa and hay) and mowing old-field and early successional areas poses a major threat to box turtle populations. To minimize such mortalities, agricultural fields adjacent to forest patches with box turtle populations should be planted with crops that do not require mowing (e.g., corn). If fields are used for agricultural purposes that require low mowing (<15 cm), then a 2–4-m old-field habitat buffer between the agricultural field and forest edge should be maintained by mowing to a height of >15 cm. If fields are mowed periodically to maintain open areas or old-field habitat, we suggest that fields be mowed at a height of >15cm. Mowing during the hottest part of the day, the hottest part of the season (e.g., mid-Jul through Aug), or when turtles are hibernating (e.g., Nov through Apr) would be ideal, because turtles may be least likely to occupy fields during these times. Searching for turtles before mowing by walking the edge of a field also may prevent some mortality." (Nazdrowicz, N.H. et al. 2008)

Under the revised Plan the FS and the co-operating state agencies cease mowing operations at times and places that can result in turtle mortality or injury.

"Utilizing just cattle to maintain a pastoral setting may not be appropriate." (DCER – 138) "Utilizing cattle may conflict with trying to have intact riparian corridors and high water quality . . ." (id.)
The FS recognizes that "Eastern Riverfront Hardwood communities (Bottomland Hardwoods) are not common" on the Forest (id.). However, the draft GW Plan does not adequately recognize and address "the importance of this ecosystem".
The revised Plan implements restoration of these rare communities, not their suppression and/or degradation by livestock grazing, mowing, or haying.

Invasive Species
"The hemlock wooly adelgid has spread . . . and threatens to seriously impact hemlock forests and some of the riparian values associated with hemlocks." - 122
The Adelgid doesn't just "threaten", it has already significantly damaged significant areas of the Forest (e.g., Skidmore Fork and Ramseys Draft).
The Forest Service must make this a priority issue. The revised Plan
must do all it can to actively and explicitly deal with halting this biological catastrophe.

"The integrity of rare native plant communities are protected from non-native invasive plant species such as ailanthus (tree of heaven), kudzu, multiflora rose, and autumn olive. Nonnative invasive plants are not a demonstrable threat to the integrity of major natural plant communities." (DLRMP at 14)
It is not at all clear how the FS and Revised Plan will address this
"Desired Condition". How, where, and to what extent does the FS intend to protect the integrity of rare native plant communities? How, where,

and to what extent does the FS intend to ensure that nonnative invasive plants are not a demonstrable threat to the integrity of major natural plant communities?

The spread of invasive species such as Asian Stiltgrass, Garlic Mustard, Multi-flora Rose and Ailanthus is occurring throughout the Forest. These plants may reduce the abundance, species richness, and/or diversity of native flora, fauna, and fungi. These impacts in turn can have cascading negative effects upon native species of biota. The direct, indirect, and cumulative impacts upon native flora and fauna from these invasives may be or become significant.

Logging, road building, burning, and other development facilitate the spread of invasives (S. Krichbaum, pers. obs., also see, e.g., Glasgow, L.S. and G.R. Matlack 2007a & 2007b).

The planners must fully and fairly address, evaluate, and disclose these issues (such as, e.g., cumulative impacts, and the sustained yield of areas not impacted) involving invasive species. The DCER does not do this. And the current LRMP and the DLMP if implemented would allow for the substantial and significant spread and/or exacerbation of alien invasives.

Asian Stiltgrass (Microstigeum vimineum) is increasingly problematic in the Eastern United States; recently it has invaded numerous sites on the GWNF (Krichbaum, S., personal observation). It rapidly invades after canopy disturbance, frequently at moist forests and stream banks (habitat for species such as the Wood Turtle), and displaces native vegetation (see Oswalt, C.M. et al. 2007).

Also of concern are the impacts of prescribed fires on invasive plant species; burning may significantly contribute to the spread and/or persistence of such species. Areas on the Forest that have been burned repeatedly are overrun with invasives (such as at the Shenandoah River on the Lee RD, as observed by Krichbaum, S. 2007). Studies found the alien herb Garlic Mustard (Alliaria petiolata) persisted and had greater abundance in burned plots (Bowles, M.L. et al. 2007).

The DCER and DLMP also fail to address the existing and potential situations as regards exotic earthworms on the Forest, nor the effects of management upon their populations. Alien earthworm populations can have significant harmful impacts upon various aspects of forest diversity and sustained yield; see, e.g., Bohlen P.J. et al. 2004, and Hale C.M. et al. 2005 & 2006). Dr. Lee Frelich has also done much recent research upon worm problems in forests; we recommend the FS consult with this expert.

Of further concern are the cumulative impacts to herbaceous flora and forest floor litter and associated organisms from worms in conjunction with Deer browsing (see Côté, S.D. et al. 2004). Dr. Thomas Rooney of the University of Wisconsin has also done much recent research upon Deer problems in forests; we recommend the FS consult with this expert.

Minerals - Energy

Approximately 832,000 acres (74.6% of our GWNF) is currently available for federal oil and gas leasing (1993 GWNF Plan at 2-33 and 1997 GWNF Plan Amendment #4). Private parties own the rights to minerals beneath another 200,000 acres (18% of our GWNF). Virginia and

neighboring West Virginia are major natural gas producers: major gas reserves in and around our GWNF include the Bergton, Thornwood-Horton, and Lost River Gas Fields (Warm Springs and North River RDs) (1993 GWNF FEIS pg. 63).

There should be multiple alternatives/options that address oil and gas development (OGD). There are many different ways the Forest Service could have addressed OGD in different alternatives. The FS needs to examine withdrawing consent across the entire Forest where possible (areas with federally-owned gas and minerals); varying amounts of withdrawal also need to be examined (e.g., withdrawing consent from all "Special Areas"). However, thus far the FS has failed to deliver a broad range of alternatives or options, which is a violation of NEPA and the planning regulations. No alternative/option in the DCER/DLRMP/NOI provides significantly different ways to address oil and gas development.

Drilling for gas in the Marcellus shale or other beds may involve hydrofracking that can use and/or contaminate large quantities of fresh water (EWG 2009). This is an issue of great concern for the Forest.

The revised Plan requires drilling companies to publicly disclose the precise chemicals they use at each well. The revised Plan requires drilling companies to comply with the Safe Drinking Water Act.

The DLRMP allows controlled surface use in many special areas (see pg. 52). This is not appropriate. There is no evidence that this is necessary.

At the very least the revised Plan must have "no surface use" stipulations and no road construction stipulations at all Special Biological Areas, Appalachian Trail Locations/Relocations, Wild & Scenic River designations, Indiana Bat areas, Wilderness Study areas, riparian areas, special areas, Mountain Treasures, and backcountry recreation areas. The GWNF planners examine and develop in detail this option/objective/guideline/dfc for managing the Forest.

The GWNF planners also examine and develop in detail this option/objective/guideline/dfc for managing the Forest: Siteing of commercial wind development is not appropriate on the GWNF.

At the least, any alternative adopted must apply the U.S. Fish and Wildlife Service's 2003 guidelines for turbine siteing.

MIS/Focal Species/Wildlife/Diversity

The agency repeatedly uses a disclaimer: Migratory bird population changes may be caused by conditions elsewhere (e.g., on the wintering grounds). But the agency fails to adequately disclose how and to what extent this affects and confounds the monitoring and analysis of MIS populations and the impacts of "management" upon them.
Use of "demand" (hunted) species as MIS is also problematic. It is very problematic to base habitat manipulation policy (and effects of manipulations) upon populations that are being directly manipulated through actions (i.e., hunting mortality) that have nothing to do with habitat. But the agency fails to disclose how and to what extent this affects and confounds the monitoring and analysis of populations and MIS.

Use of these species (migratory birds and hunted "wildlife") does not or may not accurately indicate the effects of the agency's "management". In this way, responsibility and accountability can be dodged.

Ovenbirds
Ovenbirds and Worm-eating Warblers indicate "conditions relative to forest interior habitats" - 38.
How is "interior" defined, measured and analysed? In the EIS for the revised Plan the FS must present clear and thorough quantitative and qualitative evaluation and amounts of forest "interior" habitats and edge effects on the GWNF. Without this relevant information it is not possible to reasonably formulate (and for the public to comment upon) guidelines, objectives, standards, and desired conditions.
In addition, there must be some analysis, estimation, and disclosure of current population numbers and distribution for Ovenbirds, Scarlet Tanagers, Red-eyed Vireos, Wood Thrush, and/or whatever species are used to gauge impacts to forest interior habitat conditions and area sensitive and remote habitat species. Without this fundamental baseline information it is difficult to impossible to determine if adverse impacts are occurring. The monitoring of focal species or MIS must be explicitly linked to "management" taking place on the Forest. Otherwise the monitored species are indicators of nothing.

Reduction of "interior forest" results not just from the loss at a site that is directly altered. For instance, the FS regularly finds that nesting area for the MIS Ovenbird would be reduced at a project area merely by the number of acres cut by regeneration harvesting methods (see e.g. GWNF NRRD 2005 Schoolhouse Road project EA-48). This is far from accurate and does not meet the standards of accuracy and scientific integrity required by the NEPA. The harmful impacts are far more extensive than just the "acres cut". The deleterious effects of the proposal extend far beyond the sites of actual cutting or road building. Harmful edge effects may extend a significant distance and result in a significant loss of interior forest even though the forest per se is not lost or cut down.
Confining the analysis of affects to Ovenbirds nesting habitat just to "the number of acres cut" (see GWNF EAs) is not sufficient as current scientific knowledge recognizes a potential 600-meter edge effect for bird populations (see "Roadside Surveys: Changes in Forest Composition and Avian Communities with Distance from Roads" by P. Leimgruber, W.J. McShea, and G.D. Schnell [submitted to FS], and Wilcove, D.S. et al. 1986, 1987).
This edge effect extends into the surrounding extant forest from roads and cutting sites. Edge avoidance is exhibited by various species, including Ovenbirds (Villard, M.-A. et al. 1998). The inadequacy of the analysis is implied when the FS EAs refer to depredation and nesting habitat. As the Ovenbirds would no longer be nesting at the cutover sites, the increased predation would not be occurring there, but would be elsewhere. So the affects are obviously not confined just to the number of acres cut. The extent, distribution, and affects on that "elsewhere" are what have not been receiving the legal and necessary "hard look". "Being tolerant of edge environments, such species [mesopredators] not only increase in abundance, they further reduce the effective habitat area available to forest-interior species because they compete with, prey upon, or parasitize them or their nests." (Harris, L.D. et al. 1996) (emphasis added) See also Porneluzi, P. et al. 1993.
For Ovenbirds, a "ubiquitous distribution of roads through forested areas potentially represents a significant cumulative reduction in

abundance of the species (Rich et al. 1994). If edge effects extend 150 m from roads and other human-made openings, 40% of the forested area in the northern half of the GMNF may represent lower-quality habitat for Ovenbirds. Roads themselves account for more than 50% of the edge area in the region. . . . diminished productivity would limit the forest's capacity to function as a population source for forest fragments outside the GMNF that are population sinks (Pulliam 1988). As private lands become increasingly susceptible to subdivision and development, public lands such as the Green Mountain National Forest will become more important sources of contiguous forest habitat needed to sustain populations of forest-interior species (Askins 1994). Our study suggests that even narrow forest roads should be viewed as sources of habitat fragmentation that exert negative effects on the quality of habitat for forest-interior species such as the Ovenbird." (Ortega, Y.K. and D.E. Capen 1999) (emphasis added) See also Rich, A.C. et al. 1994 and Reed, R.A. et al. 1996.
"Some potential mechanisms for edges influencing bird distributions include changes in habitat structure, food availability and species interactions near edges (Fletcher & Koford 2003a; Ries et al. 2004), some of which could potentially be exacerbated near multiple edges." (Fletcher, R.J. 2006) For example, in hardwood forests of Wisconsin's Nicolet NF and a state forest, edge effects on Ovenbird nest success and clutch size extended 300 m into intact forest from recent clearcuts <6 years old (Flaspohler, D.J. et al. 2001).

In addition to "interior" species, of concern are the direct, indirect, and cumulative impacts of Forest management activities upon area-sensitive species and "remote" (e.g., Least Weasel, Northern Saw-whet Owl, Black-billed Cuckoo, Swainsons Warbler, Cerulean Warbler, Wood Turtle, Timber Rattlesnake, Jefferson Salamander, Scarlet Tanager, and Black-throated Blue Warbler).

Black Bear

The FS admits that reconstructing and improving roads here on the Forest provides "[b]etter access [which] generally contributes to increased use by forest visitors." (GWNF WSRD Open Trail TS EA-41). However, the DCER/DAMS does not fully and fairly address the negative impacts of roads and other management practices to Black Bears. The biased analysis focuses on the purported ways that logging and management actions would improve habitat for Bears, but ignores the harmful impacts that may accrue from management actions.

Bears need security. The DCER/DAMS and DLMP contain no meaningful analysis of the loss of interior and/or remote Bear habitat that will occur and has already occurred here on the Forest. The GWNF planners must fully and fairly analyse and make clear disclosure about this issue in the EIS. And "closed" roads are known to be violated by vehicle use on the Forest (I and others have notified you of this and can testify to this). "Temporary" and "closed" roads facilitate more access and disturbance and mortality.
A clear goal for Black Bear conservation is "promoting remote forest conditions when managing forests (e.g., minimizing forest fragmentation, limiting road development)." Rudis, V.A., and J.B. Tansey 1995).
Forest Service EAs (e.g., JNF Glenwood RD Bannister Branch project) acknowledge that timber sale operations in an area may result in increased hunting pressure there. Logging operations can be seen to make an area more desirable for Bear hunters (e.g., providing easier access for humans, attracting Bears to so-called "escape" habitat that does not actually provide an escape), but this does not equate to

being better for Bears.

The FS recognizes that new or reconstructed roads serve to increase access into a project area (see GWNF West Dry Branch EA-42). The FS is also well aware that roadways can foreseeably be used for legal and illegal access. See also Jefferson NF Wilson Mtn. TS EA-69 - "roads and forwarder trail could increase hunting/poaching pressure".
Present roads and additional “temporary” and permanent road improvement or reconstruction (such as on FDR 617) will facilitate entrance into an area by hunting groups and hounds. They will be able to more easily interfere in or disturb or take Bears' lives during chase season, kill season, and by illegal poaching. Implementation of the proposed Plan (see DLMP) would provide improved access for killing or harassing Bears.
Poaching and other wildlife disturbing activities are not even mentioned. These relevant factors have not been fully and fairly considered and the DCER/DAMS is therefore not adequate for well-informed decision-making. And so-called "closed" roads are known to be violated by vehicle use here in the GWNF. So-called "temporary" and "closed" roads foreseeably facilitate more access and disturbance and mortality. The impact of the Bear gall bladder and parts trade must be fully considered.
At a minimum, it is reasonably foreseeable, given the known illegal use of "closed" roads on the Forest, that the new or reopened or reconstructed roadways of various types would receive some illegal use. Any illegal use would have a harmful impact on the bears' need to be free from disturbance. Furthermore, although gating or otherwise "closing" the roads will stop some traffic, it will nevertheless allow increased access into the area. Even when roads are closed, poachers still use them. "[A] gated road still leaves bears much more vulnerable than no road at all." (Brody, A.J., and J. N. Stone 1986). Despite FS assertions or inferences to the contrary, there is no documentation that logging or road building has long-term positive effects on Black Bears in the Central Appalachians.
These concerns are not unfounded speculation. Illegal motorized use and poaching is known to occur on this Forest. Claims of no significant impact to MIS bears from direct, indirect, and cumulative impacts are not substantiated by the record. The proposed actions would affect their distribution here, affecting in turn their viability. See viability discussion in 1993 GWNF FEIS at J - 6-7.

As alluded to above, there is clear controversy as to the effectiveness of the proposed or allowed (in the DLMP) regeneration areas to function as "escape cover". There is no scientific monitoring information or research studies in the DCER/DAMS, or reference to such data, that substantiates the agency’s claim that these regen sites function as escape cover for Bears. If, however, these cut sites do induce Bears to try to use them for "escape", they will provide no real cover at all. Bears are top-level omnivores. There is little for them to truly escape from, except for humans who kill them for fun or profit (they can just run away from recreationists such as hikers or equestrians, as has been my experience on numerous occasions). Contemporary Bear killers have dog packs, radio collars and tracking equipment, walkie-talkies, an extensive road system, 4-wheel drive motor vehicles (ATVs and OHVs), a “chase” season, and high-powered weapons all at their disposal. All of which serve to significantly increase the chances of making a successful kill(s).
The fabricated "cover" areas would actually provide the Bears no real "escape" at all from human predators and the contemporary tools at their disposal. Plus the cut sites would be easily accessible and

identifiable. These areas, if indeed they attract Bears as the agency claims, could serve to lure Bears to their doom through a false sense of security. There is no mention of monitoring of these sites. These sites could forseeably act as "sinks" on the Bear population. Significant effects on their viability here and distribution in the Forest may occur. This relevant factor must be fully and fairly considered by the planners in the EIS (which did not happen in the DCER/DAMS and DLMP); to do otherwise threatens a violation of the NEPA and NFMA.
Another factor not properly or adequately considered is that even if the logging results in patches of temporarily improved habitat (e.g., a flush of soft mast growth), this habitat is normally associated with roads so Bears may avoid using it (Reynolds-Hogland, M.J. and M.S. Mitchell. 2007).

Data from a study in the Allegheny Mountains of Virginia "show 93 percent of denned bears denned above ground in standing hollow trees." (GWNF JRRD Hoover Creek EA-57) Trees of sufficient size for Bears to den in are old large trees. Many of the big old trees at the Hoover Creek logging sites were said to be hollow (Steve Croy, personal communication at JRRD office). Yet the agency's action removed these key elements, habitat significant to viability (personal observation and see Nease report). The DCER fails to fully and fairly consider this factor. This is omission particularly glaring since there is no information in the record as to amounts of trees that are suitable for Bears to den in, and given that the agency often claims old growth is not present at logging sites which would mean that such trees of sufficient size can be expected to be scarce.

Black Bears avoid roads, presumably to avoid people (Powell, R.A. et al. 1996). And this also translates into habitat lost (a road effect zone or ecological footprint). This may have a disproportionate effect depending on where these roads and their zones occur since Bear home ranges are clumped, which is linked to the clumped spatial distribution of food resources as well as habitat use by other Bears (Mitchell, M.S and R.A. Powell 2007). Analyses of Black Bears in the mountainous GWNF must also include topography in addition to factors that are traditionally considered such as amount of “habitat” (Powell, R.A. and M.S. Mitchell. 1998).
Black Bears have been found to avoid relatively low traffic volume gravel roads; the negative effects of gravel roads on habitat quality occurred over a large spatial extent. This avoidance zone varied with sex, age, and season, but “Overall, bears avoided areas within 800 m of gravel roads.” (Reynolds-Hogland, M.J. and M.S. Mitchell 2007)
These relevant factors involving roads and the negative effects on habitat quality over a relatively large spatial extent must be fully considered by the planners in the EIS (which did not occur in the DCER and DLMP); to do otherwise threatens a violation of the NEPA and NFMA.

The DCER represents that Bear habitat would be improved and not degraded by logging and road building. But the analysis fails to consider relevant factors and relevant information. Implementation of the DLMP would allow and facilitate further loss of quality Bear habitat and deterioration of Bear security, as well as the diminishment of Bear population numbers (from legal and illegal means), particularly ‘old growth’ Bears.

The VDGIF kill data indicates that more and more Bears are being killed, but they are young and small. The demographic structure of the population is being severely modified. It appears that the sustained

yield of old large Bears is not happening. The FS must address this with the state game agencies. The impact of the "chase seasons" on the Forest's Bear population must be addressed.

The FS needs to consider, with the VDGIF and WVDNR, the establishment of Bear refuges on the Forest that are off-limits to hunting. Such areas exist on other National Forests. Closure of more roads during Bear kill and chase seasons needs to be evaluated and implemented.

Management that facilitates Bear killers and/or chasers is not necessarily equivalent to improvements for Bears. This perspective is not apparent in the DCER and DLMP. Apparently the tact is taken that since high numbers of Bears have recently been killed on the Forest, then management that is occurring is good for Bears. But what is the average age of the killed Bears? What is the trend as regards age of killed Bears? What is the average size of the killed Bears? What is the trend as regards size of killed Bears?

Brook Trout

In re Brook Trout the FS states that App. G of the M & E Reports documents that "timber harvest and other mgmt. activities did not significantly decrease habitat or populations of brook trout." - 41
What are the bases of these assertions? Are the data from streams and watersheds that were actually logged during the time Trout were monitored? Are the data from streams and watersheds where roads were actually constructed during the time Trout were monitored? Were stocked fish counted as part of the populations?
See DCER/AMS section on LWD loadings. There is a direct correlation of Trout populations with LWD (see Flebbe, P.A. and C.A. Dolloff 1995 - "[T]rout always used units that had the most LWD [large woody debris]. In the absence of high fishing pressure, streams with large amounts of LWD appear to support higher trout density and biomass than streams with little or no LWD.")
A recent study found that Virginia had the highest percentage (38%) of subwatersheds with intact habitat in the eastern US that supported self-sustaining Brook Trout populations (Hudy, M. et al. 2008). The GWNF serves as a significant refuge for the species (id. map at pg. 1075). There are 700 miles of "cold-water" streams on the GWNF in VA, with 635 miles being Trout streams (class I-IV). There are only five exceptional wild Trout streams (class I) occurring in the GWNF in VA, totaling only 13 miles.
Trout streams on the GWNF receive expanded and strengthened protections in the revised Plan.

Cow Knob Salamander

The Cow Knob Salamander (Plethodon punctatus) has been found south of US Rt. 250 at the Elliot Knob and Crawford Mountain Roadless Areas and all the way to Northeast Peak in Jerkemtight Roadless Area (William Flint presentation at October 2007 Virginia Herpetological Society meeting; see also Graham, M.R. 2007). This isn't mentioned in the DCER (pg. 43), only that 2002-2003 surveys found them down to Hardscrabble Knob (at west boundary of Ramseys Draft WA). They have also been found on the Lee RD at the Hawk Campground area (recent) and Great North Mountain (historic) (see WVDNR 2005 at 5E – 10).
The "agency is postponing making any proposal to expand the existing CKS SBA until it meets with the Conservation Team." (DCER-44) Who is to be consulted, how, and when? What do they recommend?
In the revised Plan the Shenandoah Crest SBA is expanded north and south to incorporate newly found locations of the Salamanders.
In the revised Plan the Shenandoah Crest SBA is expanded down slope to

include areas of the GWNF down to 2500-2600-feet in elevation (the CKS is known to inhabit areas of such elevation; see Buhlmann, K.A. et al. 1987, and Graham, M.R. 2007). For a species with a small range like the CKS, the more effective conservation strategy is to protect as much of the underlying genetic diversity within the species as possible (Graham, M.R. 2007, and Mitchell, J.C. 1994a). Strict protection of the Salamanders' full habitat on the Forest is feasible and can be accomplished with minimal difficulty.

"FW-177: OHV routes should be selected that avoid sensitive areas including, but not limited to threatened, endangered, and species of concern habitat, rare communities, and native brook trout streams." (DLRMP – 70)

Roads serve to fragment Cow Knob Salamander populations and habitat (Flint, W.D. 2004). To address habitat degradation and fragmentation, OHV routes are decommissioned/removed/revegetated in the Shenandoah Crest SIA-B.

White-tailed Deer

Problem:

There is a high density of White-tailed Deer (Odocoileus virginianus) on the GWNF. The Forest Service's timber sales and other habitat manipulations maintain and facilitate inflated populations of this common species. The habitat manipulations and the associated numbers of common Deer are detrimental to other Forest species and conditions. These harms to forest health occur regardless of the motives or purposes of the alterations. The Forest Service fails to disclose the rationale for desiring high Deer densities based on some vague "Cultural Carrying Capacity".

The logging and other "vegetative manipulation" done on the Forest inflate White-tailed Deer populations by fabricating more browse. Although the FS is lately focusing on species such as Golden-winged and Prairie Warblers, Grouse, and Bears to rationalize esh fabrication in its Plans, the forecasted cutting will undoubtedly result in more Deer (a well-known indicator species for esh and forest fragmentation).

There is a good reason for not wanting to draw focus to the Deer issue: Who could possibly think there is a shortage of Deer? There is already a very high density of Deer on the Forest, recently estimated at 31/square mile (DCER - 45). In Virginia, the White-tailed Deer population has increased 400% since 1968, and Virginia's human population has increased 61% (Donaldson, B.M. 2005). Deer are the most dangerous wild animal to human safety in the country (id.). High Deer populations harm flora and fauna, including rare species (e.g., sensitive plants and ground-nesting birds) (see JNF FEIS 3 – 137, references). High Deer densities also reduce tree seedlings such as regenerating oaks.

Even-age logging causes increases in the level of Deer that browse on forest understories (Redding, J. 1995; US Forest Service 2000c). A primary rationale the FS uses to support their timber sales is that there is a need to reduce the browse pressure on the Forest from Deer, so the logging will accomplish this by providing more "browse" for the Deer to eat. Providing Deer with browse (that results immediately after logging) leads to increased Deer populations, which leads to the need to provide more browse, which leads to more Deer, which leads to . . . ad nauseum.

It's time for the FS to stop wasting American's tax dollars and step off the browse treadmill.

And misdirecting/misleading the public by referring to the cutting on the Forest as "management" for Bear or Turkey or Grouse or Golden-winged Warbler does not make the effects on the Deer population go away.

Table at pg. 45 shows massive increase in Deer kill; in 1985 around 100,000, then in 2005 around 210,000 - over 100% increase while the numbers of hunters are decreasing, and the Forest is maturing.
This information does not support the need to manage for more Deer.
"In 2000 VDGIF and WVDNR estimated deer populations at 49,418 individuals on the GWNF." - 45
This is 31 deer/sq. mile, which is already too high. The Maryland DCR publication states that more than 20 per sq. mi. are an ecological problem.
The DCER states that the VA Deer Mgmt. Plan recommends manipulation of public lands for more esh and to "stabilize deer populations on public lands" - 45-46. This has the appearance of a self-serving recommendation, doing what may be good for a bureaucracy with a vested interest, but not what is best for the Forest (for example, leading to diversity on the Forest that is NOT "at least as great as that which would be expected in a natural forest" as per the NFMA).
This recommended direction alluded to in the DCER sounds preposterous; there are already excessive numbers as regards ecological health - more esh will lead to more Deer. "Stabilize" at what level? How was the level determined?
"The White-tail Deer is a game species . . . therefore population viability is not a concern." - 46
Yet apparently our public lands and tax dollars are supposed to be used to cater to the whims of some members of a special interest group who are killing more Deer than ever; this Forest should not be turned into a feedlot for a problematic species, a subsidized special interest group, and a big government bureaucracy with a vested interest. This is a controversial issue that needs to be fully addressed. And it is certainly not clear that all or even most Deer hunters are clamoring for more habitat manipulations (such as timber sales). So actually, the special interest group is another government bureaucracy. As it profits from the sale of licenses, the VDGIF has a vested interest in maintaining high Deer populations.

If there is a problem with oak regeneration on the GWNF, what is not being properly considered is that perhaps a major 'problem' for oaks can be called: 'It's the Deer, stupid'. See, e.g., Rooney, T.P. et al. 2004. Is there actually a lack of oak regeneration on the Forest? Or is there regeneration, but the regeneration is being eaten and suppressed/destroyed by Deer? The FS must clearly and fully analyse and disclose this issue.

There are already excessive Deer numbers as regards forest or ecological health. For instance, Deer populations such as are found at the current density on the Forest are considered harmful by Maryland state biologists and others; see, e.g., 15-20/sq. mi. in Marquis, D.A. and M.J. Twery 1992. Also see Deer numbers for Alts. 3 & 8A at GWNF FEIS 2 – 28.
At pg. 46 the FS expresses concern about "increasing deer damage to plant communities". Unfortunately, and incongruously and unreasonably, the agency's response is "increased management to enhance deer forage on the GWNF".
Of course, this "increased management" will serve to enhance Deer populations (deer/browse treadmill), which of course exacerbates ecological damage from Deer, and on and on ad nauseum. In addition, logging ("enhance deer forage") directly and indirectly damages plant

communities in other ways.
See Rooney, T.P. and D.M. Waller 2003; Meier, A.J. et al. 1995; Russell, F. L. et al. 2001; Miller, S.G. et al. 1992; Côté, S.D. et al. 2004; Waller, D.M. and W.S. Alverson 1997.
And the harmful effects of the Deer herd are not limited to plants; see, e.g., W. McShea, 1997, "Herbivores and the ecology of forest understory birds", in The Science of Overabundance, McShea, Underwood, and Rappole, editors.
The FS has known for years that high/current numbers of Deer are a significant problem (see, e.g., Waller, D.M. and W.S. Alverson 1997, McShea, W. 1997, and Miller, S.G. et al. 1992). Yet, the FS response is the exact opposite of what should be done.
The agency rationalizes this mess with "deer populations can be sustained at levels to meet public demands for viewing and hunting" - 46.
What public viewing demands? What data source? How was this so-called "viewing" demand quantified? And fewer hunters are already killing more Deer than ever - how easy must it be made for them? What hunting demand? What about the demand for a quality hunting experience (as opposed to sheer quantity)? What about the public demand for viewing Deer at population levels that are not damaging to forest ecosystems? How are the GW planners responding to this issue? What actions has the FS taken to educate "viewers" about the harms posed by high Deer populations?
The FS proposed response to maintain and even increase Deer numbers (to "enhance Deer forage" which will serve to enhance Deer population numbers) is quite simply unreasonable. For one thing, on top of ecological damage, Deer are already a significant economic problem (e.g., personal injuries and insurance claims of $1 billion/year) and source of property damage (e.g., crops and automobiles) (Donaldson, B.M. 2005; Clark, B. 2003).

One of the factors influencing the Deer population is the extirpation of predators (Wolves and Cougars). The Coyote (Canis latrans) is one of the few extant predators that can help make up for the loss of Wolves and Cougars. Coyote depredation takes a huge toll on fawns; in a telemeter study at the Savannah River Site, Coyotes predated around 60% of the fawns (Bobcats took 10%) (Kilgo, J.C. 2009).
Through provisions in the revised Plan, the Forest Service works with
state and county agencies and the private sector to encourage Coyote populations on the Forest.

Resolution:
Proactively control the White-tailed Deer population through the encouragement and restoration of interior and unfragmented forest habitat. Work proactively with the VDGIF/WVDNR to ensure smaller, healthier Deer herds. Encourage the evolution of forest stands into old growth conditions to provide more ecological integrity. Restore interior forest habitat conditions wherever possible through the designation of special areas such as Wilderness, National Recreation Areas, special biological and special management areas, and roadless and unroaded areas. Pro-actively decommission logging roads across the Forest. Get off the Browse Treadmill; discourage and eliminate the use of commercial timbering, particularly even-aged practices. Substantially reduce the fabrication of new early successional habitat through the cutting of mature forest sites. The Forest Service must fully and clearly disclose how it is determined that maintaining or increasing high Deer populations on the Forest is desirable.

ESH

Problem:

The FS does not properly consider the contribution of natural processes to maintaining wildlife habitat, particularly "early successional habitat", on the GWNF. The FS planners fail to properly consider and analyse natural esh patches, particularly those under two acres in size (the scale of many canopy gaps). As a consequence, the GWNF managers constantly use a false "need" to fabricate such habitat as a rationale for cutting down valuable and important mature and old-growth forest habitat.

The agency's disclosure does not substantiate that purported "declines" in some esh species are necessarily a rationale concern.

The FS fails to fully and fairly consider the huge and unnatural erratic explosion in esh, and by extension esh-wildlife populations, that took place during and after the logging boom of 80-120 years ago; an expansion from which some maturing ecosystems are just now recovering.

The need to spend millions of dollars a year on heavy-handed management such as timber sales to fabricate esh is not apparent.

The FS intent is to maintain an even-aged structure for much of the forest, conditions that are in many ways an artifact of past abuses. This successional model is used to justify the unnatural "need" to perpetually generate man-made early succession patches; in other words, generating a constant stream of make-work projects such as below-cost timber sales.

The Forest Service consistently rationalizes its sales of our irreplaceable mature and old-growth forest habitat to commercial logging interests by claiming a "need" to fabricate ESH for wildlife coupled with a "need" to move toward "balanced" age classes (see GWNF scoping letters and EAs). But this assessment of need is based on faulty data, as the Forest Service currently neither inventories nor counts the great majority of the ESH that results from natural disturbances.

The truth is that our maturing and recovering GWNF naturally contains all developmental stages of forest growth due to regeneration at canopy gaps created by disease, fire, snow & ice, lightning strikes and resultant fire, insect outbreaks (including gypsy moths), tree senescence, windthrow, Beaver, drought, flooding, and other small-scale natural disturbances (Braun, E.L. 1950, Rentch, J.S. 2006). A disturbance regime of small-scale, within-stand gap processes dominated the natural forests in this region (Rentch, J. 2006, Runkle, J.R. 1985, Runkle, J.R. 1991a). A forest can be "intact" or "contiguous" yet have numerous canopy openings due to a variety of natural disturbances (see, e.g., McCarthy, J. 2001). In fact, this is the natural state of wild old growth forests in this part of the country (Davis, M.B. 1996). In addition to moisture, edaphic, and topographic gradients (McEwan, R.W. and R.N. Muller 2006; Lawrence, D.M. et al. 1997; Ashe, W.W. 1922), canopy gaps are a major factor structuring understory and overstory vegetation in deciduous forests of the eastern United States (Glasgow, L.S. and G.R. Matlack 2007a). Disturbances occur in the canopy as well as in the understories, independently or in concert (Runkle, J.R. 1991b). Such processes normally occur and can be expected to occur in the future, as nature is very capable of maintaining our GWNF's ecological integrity without the assistance of commercial logging.

The congruence and harmonization, or lack thereof, of human disturbance (viz., cutting regimes) with the spatial and temporal parameters of natural disturbance and their associated biological

legacies are of great concern (Franklin, J. et al. 2002, Keeton, W.S. 2004, and Flamm, B.R. 1990). Further, it is critical to consider that intensive logging operations not only significantly directly alter habitat conditions, but in addition they interfere with, impede, truncate, and/or prevent the expression of the natural disturbance regime. Mature forests are of the age that a mosaic of habitats is gaining expression due to the operant natural disturbance regime (Franklin, J. et al. 2002; Keeton, W.S. 2004). And still more such niche complexity (including canopy openings) can be expected to develop as mature forests develop into old growth (Dahir, S.E. and C.G. Lorimer 1996). Such forests (of sufficient age) typically include stands or patches dominated by young early successional forest, old early successional forest, mid-successional forest, young late successional forest, and old late successional forest (Frelich, L.E. and P.B. Reich 2003).

A typical rationale used for timber sales/wildlife management is the assertion that after they are cut then the logged sites will have increased berry or soft mast production. However, this enhancement is only short-term (2-9 years); then the cutover sites have a very long period (30-60 years) of very low soft mast production (Reynolds-Hogland, M.J. et al. 2006). The rationale underlying this current and proposed continuance of a trade-off in a purported short-term “improvement” for long-term harm must be fully and fairly evaluated and disclosed in the EIS. This management trajectory has direct, indirect, and cumulative negative impacts to species of flora and fauna.

The simple fact is, natural disturbances small and large are constantly happening somewhere throughout the Forest, forming a shifting mosaic of habitats (see Shugart, H. and D. West 1981, and Harris, L.D. et al. 1996). With the sporadic nature of natural disturbances (see JNF FEIS 3-107, 109), early successional habitat is naturally patchy or spotty and species are adapted to this. Though episodic, natural canopy gaps are a regular occurrence here, their rates varying depending on the scale of natural disturbance events in a particular year and the forest type studied. On the GWNF canopy gaps are said to annually form from natural disturbances at the rate/extent of "0.4 to 2.0% of the land area" (GW-JNFs Indiana Bat EA-20). This means that in any ten-year period (this is the increment used by the agency to define age classes and wildlife habitat), up to 4-20% of a project area may have natural esh conditions. These natural processes and conditions provide desirable and suitable habitat for Grouse, Deer, Turkey, Bear and other species.

The 1993 GWNF FEIS had estimated numbers of game populations under each alternative for comparison. The natural processes option (Alternative 3) was clearly estimated to supply game populations far in excess of viable populations (in the case of Bears it was said to support the greatest numbers, for Turkeys the second greatest).

In the interests of accountability, reason, science, sustainability, and forest health, the revised Plan/EIS requires/accomplishes the full survey, analysis and consideration of the contribution of naturally occurring ESH (down to 0.1 acre in size) to sustaining wildlife populations. The revised Plan/EIS clearly and thoroughly disclose supporting rationale and data for assertions that various amounts of ESH must be artificially fabricated. This rationale must be available for public comment before a decision is reached on a revised Plan, since how the Forest Service goes about deciding where and how much ESH will be fabricated and maintained is an important

public issue.
The GWNF planners fully and fairly evaluate and implement the option/dfc of ceasing to cut mature and/or old-growth sites and instead recutting the sites recently logged on the GWNF (i.e., those 10-40 years old) if early seral wildlife habitat must be fabricated (see Reynolds-Hogland, M.J. et al. 2006). Such alternatives, objectives, desired conditions, guidelines, standards, and goals must be fully developed, analysed, and evaluated and be part of the revised Plan.
Further, the agency must fully and fairly consider and analyze the ESH on private lands near our GWNF and its contributions to sustaining wildlife populations.

Since the Forest Service has thus far failed to validate its so-called "need" to intensively log areas of our GWNF with site-specific wildlife population data for even the targeted game species, let alone for all other non-game species, the revised Plan must require (Standards, DFCs) that the FS obtain and analyze such site-specific wildlife population data before implementing intensive cutting and other ground-disturbing activities based on the ostensible and unverified "needs" of wildlife.

The Forest Service is excessively focused on the early successional habitat that results from timber sales. But there is much more to esh than just the saplings that come up after logging operations.
Early successional habitat includes grasslands, shrublands, and young forests that originate after a disturbance (fire, flood, wind, or logging) or where conditions such as thin soils, regular flooding, or exposure to wind support the growth of herbaceous and shrub vegetation and preclude or diminish the growth of large trees. Among the many names that have been given to the landscapes that fall within the early successional forest category are thickets, grasslands, sapling-seedling stands, heaths, young forests, pole timber, and shrubland. A great deal of such habitat is scattered across the forested landscape as a result of tree deaths, blowdowns, hurricanes, ice storms, droughts, Beaver impoundments, edges, or inherent site conditions.
The benefits to some wildlife from the logging-fabricated esh are short-lived. After the ostensibly beneficial phase (perhaps 10 years) comes a phase where the recovering cut-over sites are admitted to be of little use to wildlife. This 'biological desert' phase (the so-called "sapling" and "pole timber" stages) persists for decades until some beneficial conditions of maturity arise. The FS admits these early seral sites "provide minimal benefits in regards to herbaceous undergrowth and bugging areas for wildlife." (JNF FEIS 3 - 108) The tradeoffs the agency regularly proposes (a decade of purportedly good habitat for at least several decades of bad) make little if any sense.
There are many types of esh that are not fabricated by logging. These include not only habitat from natural processes, but also places such as utility line corridors and maintained openings. Planning assessments must differentiate between and fully consider all the various types of early successional habitat. For example, do negative viability or wildlife findings for a management alternative result from reduced logging, or actually from a reduction in maintained permanent herbaceous/grassy openings?
The value to wildlife from permanent openings as compared to logging fabricated esh has been quantified by the Forest Service. For instance, Turkeys, a focal species on the Forest, derive very little benefit from logged over sites compared to permanent grassy openings.

According to the agency's own documents it takes 500 acres of logging to equal the benefit to the Turkey population of just 1 acre of opening (USFS "Wildlife Working Papers" by Goetz and McEilwane; part of the administrative record compiled by the FS for Krichbaum v. Kelley W.D.Va. 1994). A similar situation occurs with Deer and Black Bears.

Analyses of wildlife and development of desired future conditions (DFCs), guidelines and objectives must fully recognize and consider the differing types of early successional habitat. If site-specific data indicate an actual need to fabricate wildlife habitat, the Forest Service must then fully and fairly consider the fabrication of small grassy openings instead of conducting extensive regeneration logging.

Diversity

At present on the GWNF there is an extreme disbalance in the distribution of age-class forest acres. There are generally very little or zero acres represented in the 131-140, 141-150, 151-160, 161-170, 171-180, 181-190, 191-200, 201-210, 211-220, 221-230, 231-240, 241-250, 251-260, 261-270, 271-280, 281-290, 291-300, 301-310, 311-320, 321-330, 331-340, 341-350, 351-360, 361-370, 371-380, 381-390, 391-400 years-old age classes at project areas. For “stands” said to be greater than 200 years old the FS recently identified only 11,014 acres on the Forest (1.06% of the Forest) (pg. G-40 in the September 2005 GW-JNFs Monitoring Report).

When allowed, trees of the species typically found here, such as White, Chestnut, and Northern Red Oaks, Black Gum, Black Birch, Tulip Tree, Cucumber Magnolia, White Pine, Eastern Hemlock, hickories, and maples are known to at least attain such ages as those referenced in the preceding paragraph (Fowells, H.A. 1965, and ENTS and Eastern OLDLIST websites). These species and ages are important components of forest diversity. It is not reasonable to ignore all these age classes and lump them together (such as 140+ or 150+ in numerous scoping letters and EAs) when discussing and analyzing “distribution” or "balanced age class" and the "need" to cut to attain it. (Of note is the fact that maximum tree ages found thus far by independent researchers often far exceed those listed in the USDA Silvics manual (Pederson, N. 2007, with data from the GWNF).)

A site that has not been cut for 250, 300, 350, 400, or 500 years is NOT the same as one that is 150 years old. Conditions (such as amounts of woody debris) are different as are communities. Who could even look at a 350-year old tree and think it to be the same in structure (or function) as one 150 years old of the same species on similar site conditions? Of course they are not the same. And various research indicates that plant and animal communities are not the same at ancient sites as at younger sites.

It may take centuries for plant species to colonize and populations to stabilize. See Honnay, O. et al. 2005.

The use of truncated and/or misleading age classes has little or no ecological basis, but instead is based upon the concerns and convenience of timber management.

In the past the FS has often labeled forests 80 years of age and above as “mature”. This may make sense from a timber or pulp logging or accounting perspective, but is highly misleading, omissive, and nonresponsive as regards ecological systems and community development. And now to make matters even worse, the GW planners are now labeling forests a mere 60 years of age as “mature” (see “Draft Species Diversity Report George Washington National Forest March 2010”). This tact is unreasonable and does not maintain the scientific integrity demanded by the NEPA. This expedient could easily be used to further rationalize the cutting of old forests and expand suitability.

The implications of this issue and concern must be fully evaluated and disclosed to the public.
A project such as the NRRD Marshall Run timber sale proposes to intensively cut "stands" said to be 93-127 years old. Implementation of such proposals would result in significant long-term harm to achieving a representation or "balance" of upper "age classes". Further, "balanced" "age classes" is an artificial regime. It belongs on tree farms, not on the GWNF. A functioning natural forest ecosystem in the Appalachians does not have "balanced" age classes. Natural functioning forest ecosystems here contain multi-aged or all-aged stands, with the great majority having old age trees (Braun, L. 1950, Ashe, W.W. 1922, Davis, M.B. 1996). A management scheme of moving toward a "balance" of constricted age classes fails to protect the compositional, structural, and functional diversity of the Forest's ecosystems such that they are NOT "at least as great as that which would be expected in a natural forest" (in violation of the NFMA). The revised Forest Plan ceases the use of constrained and constricted age classes and lumping of such. The revised Plan requires the explicit use of older age classes, including those enumerated above, in analyses, monitoring, inventory, DFCs, objectives, and decision-making, particularly as regards issues of diversity, suitability, sustainability, and "balance".

A further problem is that the FS uses a coarse insufficient approach that fails to acknowledge/reflect the actual compositional diversity present. The 1993 FEIS refers to 38 forest types on the GWNF (see pp. H – 3-4). And the GW planners now list only 23 "ecological systems" on the Forest (see "Draft Ecosystem Diversity Report George Washington National Forest March 2010). In contrast, a recent survey by the VDNH recognized at least 60 types of forested vegetation communities on the Forest (Fleming, G.P. and P.P. Couling 2001). In addition, around 16 other non-forested communities were recognized (e.g., acidic heath barrens and montane buttonbush pond) (id.).

If the FS does not explicitly acknowledge these vegetation communities in its inventory, monitoring, analyses, and formulation of management direction/ practices, it is apparent that well-informed decision-making is not possible, nor is protection of the Forest's diversity and sustained yield. Just as with age classes, this is another instance of the improper use of "lumping" by the agency. Such a misleading and crude approach is insufficient for meeting the scientific integrity and disclosure requirements of the NEPA or the on-the-ground protective requirements of the NFMA and MUSYA.

The revised Forest Plan ceases the use of constrained and constricted
vegetation classes and lumping of such. The revised Plan requires the explicit use of all the forest community classes, including those identified in the above VDNH document, in analyses, monitoring, inventory, DFCs, objectives, and decision-making, particularly as regards issues of diversity, suitability, sustainability, and "balance".

Monitoring & Inventory - Protection of Forest Diversity, Viable Populations, and Sustained Yield
The present MIS, except for some TES species, are all large mobile vertebrates. The use of these species does not accurately gauge the impacts to small site-sensitive species of limited mobility such as salamanders. Management plans must insure research on and (based on continuous monitoring and assessment in the field) evaluation of the effects of each management system to the end that it will not produce

substantial and permanent impairment of the productivity of the land (NFMA). We must expand the focal species and ecosystems receiving attention in order to accomplish the necessary multiple-scale conservation on the Forest (Poiani, K.A. et al. 2000).

Small creatures such as salamanders, skinks, turtles, and invertebrates with limited mobility (and avoidance ability) can be very sensitive to on-site disturbances such as roads and timber operations (see, e.g., Herbeck, L.A. and D.R. Larsen 1999, Marsh, D.M. and N.G. Beckman 2004, Semlitsch, R.D. et al. 2007, Graham, M.R. 2007, and Flint, W. 2004). It may take many decades (i.e., long-term impacts) for their populations to recover once reduced by human disturbances such as logging (Petranka, J.W. et al. 1993; Hoymack, J.A. and C.A. Haas 2009). Their size, physiologies, and habits greatly restrict their ability to avoid direct disturbance from logging equipment, motor vehicles, prescribed fires, or falling trees. They are vulnerable to further harm indirectly from alteration of habitat conditions by logging, burning, and road building operations. And the life history requirements and characteristics of such species greatly restrict their abilities to "recolonize" areas (see, e.g., Cushman, S.A. 2006). So the large, mobile, and/or generalist indicator species (e.g., Black Bears, White-tailed Deer, bats, Wild Turkeys, Pileated Woodpeckers, Ovenbirds, and Worm-eating Warblers) currently used by the FS are of limited, even misleading, use for gauging impacts to site-sensitive Pine Snake, salamander, turtle, or Coal Skink populations.

Salamanders are of significant import in any discussion of management on the GWNF. Salamanders are significant components of forest ecosystems (Burton, T.M. and G.E. Likens 1975; Hairston, N.G. 1987). They perform many ecological functions (Davic, R.D. and H.H. Welsh 2004) and may constitute “keystone species” (Davic, R.D. 2003). Numerous salamander species occur on the GWNF (Mitchell, J.C. and K.K. Reay 1999; Petranka, J.W. 1998). In order to protect the Forest’s diversity, sustained yield, and population viability/distribution, the effects of prescribed burns, logging, roads, and other management actions upon fragmenting, diminishing, and/or degrading salamander habitat must be explicitly and fully addressed by the GWNF planners in the EIS and Plan revision.

Yet presently used MIS (outside of the limited ranges of the Tiger
and Cow Knob salamanders) do not allow for the accurate monitoring and assessment of management impacts to salamander populations. Then some other indicator of effects needs to be used; the current projects’ and Plan's monitoring proxies are deficient. 16 U.S.C. ß1604(g)(3)(C).

As differing species of salamanders use/prefer different habitat conditions (Petranka, J.W. 1998; Davic, R.D. 2002), salamanders are not distributed homogenously in the Forest. Salamander distributions are linked to microhabitat conditions that can change with forest types (Harper, C.A. and D.C. Guynn 1999). In addition, microsite understory conditions with which they associate may not be precisely indicated by overstory forest typing (Ford, W.M. et al. 2002). So a closer examination of proposed burning and logging sites, a more thorough analysis of the burning and logging programs and their effects, and the avoidance of areas that would otherwise be logged or burned are all necessary.

The species monitored in the past are not sufficient for adequately indicating affects of management. The revised Plan needs to incorporate new/additional monitoring proxies, such as additional salamander species.

See, e.g., Southerland, M. T. et al. 2004, Welsh, H. H. and S. Droege

2001, and Flint, W.D. and R.N. Harris 2005.

The revised Plan ensures that proper protocols and Standards exist for monitoring and avoiding harmful effects to site-sensitive species.

These concerns for site-sensitive biota are not confined to fauna, but extend to flora as well. The GWNF has great floristic diversity (see, e.g., Strasbaugh, P.D. and E.L. Core 1977, and 1993 GWNF FEIS App. F). Though perhaps most renowned for their beauty, the Forest's herbaceous plants are significant ecological components as well (Whigham, D.F. 2004). They can be harmed directly by logging that alters site conditions and indirectly by edge effects that allow invasion by exotics and other harms (e.g., alteration of microclimate and microhabitat conditions). Recovery from these harms can take many decades (see, e.g., Duffy, D.C. and A.J. Meier 1992, Matlack, G.R. 1994a, Meier, A.J. et al. 1995, Vellend, M. 2004, Vellend, M. et al. 2006, Kahmen, A. and E.S. Jules 2005, Bratton, S.P. and A.J. Meier 1998, and Primack, R.B. and S.L. Miao 1992). Management activities may also incur direct and indirect impacts to pollinators (Cane, J.H. 2001) and spore/seed dispersers such as ants (Ness, J.H. and D.F. Morin 2008, Whigham, D.F. 2004, and Matlack, G.R. 1994a) and turtles (Jones, S.C. et al. 2007).

Intensive cutting operations generally reduce litter and woody debris as well as alter soil structure, leaf litter, and humus. The availability and distribution of ground cover can change, as can thermal maxima and minima (Todd, B.D. and K.M Andrews 2008, and Chen, J. et al. 1999). Loadings of large woody debris on sites can be reduced for many decades after logging (Webster, C.R. and M.A. Jenkins 2005).

Intensive even-age logging operations have moisture and temperature effects (Chen, J. et al. 1999 and Zheng, D. et al. 2000) The operations result in drying and/or increasing the temperatures of the ground surface, as well as compaction of soil. This can alter the habitat of as well as destroy or diminish invertebrates living there (as well as vertebrates such as Coal Skinks and salamanders). This may result in population reductions, significant impacts to viability, and/or distributional loss for organisms with perhaps limited dispersal and recovery capabilities and/or of their prey populations.

Microclimatic differences can directly determine the distribution of species within patches (i.e., biological diversity) and the movement of species among patches (Chen, J. et al. 1999). For example, salamander distributions have been found to be correlated with microclimatic moisture gradients and cover objects (e.g., woody debris) (Grover, M.C. 1998). Intensive logging degrades microhabitat characteristics for woodland salamanders; not only by altering thermal and hydric regimes, but also by decreasing plant or animal food items due to decreases in soil or leaf litter moisture and/or decreases in leaf litter amount and depth (Crawford, J.A. and R.D. Semlitsch 2008, and Petranka, J.W. et al. 1993).
Fungi, herbaceous flora, and invertebrates, such as snails, slugs, millipedes, worms, and arthropods, that live in the forest floor litter or topsoil or are associated with LWD are a significant component of forest diversity (McMinn, J.W. and D.A. Crossley, Jr. 1996). These organisms are also important food for species such as Wood Turtles. Logging's negative impact upon these forest floor or LWD organisms has thus far received little consideration from land managers.

How long does it take such populations to reestablish and recover after they are suppressed? Are their populations being chronically suppressed due to an accumulation of impacts over time? Effects have the potential to last for decades. Reduction of prey populations, of creatures with perhaps limited dispersal and recovery capabilities, is neither appropriate nor beneficial.

The concern is about significant impacts of logging upon the viability and distribution of snails, slugs, millipedes, arthropods, earthworms, salamanders, fungi, and herbaceous plants, and in turn upon species that prey upon them, such as Wood Turtles. Food quality and quantity are important concerns (see, e.g., Remsberg, A. et al. 2006).

Logging can influence the abundance and species composition of arthropods (Shure, D.J. and D.L. Phillips 1991; and Greenberg, C.H. and T.G. Forrest 2003). Perhaps some species feed mainly upon more moisture-dependent arthropods. Macroarthropods may respond positively to the cooler, moister microclimates and greater cover and depth of leaf litter in unlogged sites; intensive cutting could result in declines of ground-occurring macroarthropods (Greenberg, C.H. and T.G. Forrest 2003). In Ridge & Valley Pennsylvania forests, Strang (1983) found that numbers of large invertebrates (> 1 cm) per plot increased with litter depth.

Slug densities and land snails are positively correlated with the presence of coarse woody debris (Kappes, H. 2006, and Caldwell, R. 1996). "It thus may be expected that slugs, especially the stenoecious forest species, are highly sensitive to climatic fluctuations originating from canopy gaps or from disturbance of the leaf litter layer." (Kappes, H. 2006) "[P]lots in which salamanders were captured, harbored significantly higher numbers of snails than plots in which salamanders were not captured." (Harper, C.A. and D.C. Guynn 1999)

Intensive logging can also have very long-term affects on the reestablishment of forest herbs (which in turn serve as food for various species) (Duffy, D.C. and A.J. Meier 1992, Meier, A.J. et al. 1995, Vellend, M. 2004, Kahmen, A. and E.S. Jules 2005, and Vellend, M. et al. 2006). Overstory age is a strong determinant of understory floral composition (Whitney, G.G. and D.R. Foster 1988). For example, in comparison to those in "mature" New Hampshire beech-maple forests, "old-growth floras were found to be significantly richer in total, herbaceous, woodland herbaceous, and unique herbaceous species (species occurring only in one forest type or the other)." (Teeling-Adams, L.M. 2004)

The GWNF planners must address:

Plant species as MIS (aside from very rare species with extremely limited distributions such as the Swamp Pink), such as the Yellow Moccasin Flower (Cypridium calceolus) and the Wood Lily (Lilium philadelphicum);

Salamander species as MIS (Southerland, M. T. et al. 2004, Welsh, H. H. and S. Droege 2001);

Locally Rare species as MIS;

Invertebrates as MIS (Kremen, C. et al. 1993);

Small predators (e.g., Raccoons) as MIS (Engeman, R.M. et al. 2005);

Non-game of special interest as MIS aside from Tiger and Cow Knob Salamanders (with limited distributions and therefore of limited utility on the Forest);

Red Maple (Acer rubrum) and invasive plant species (such as Stiltgrass, Tree of Heaven, and Garlic Mustard) as indicators of negative impacts to community/ site/ forest diversity resulting from "even-age management", roads, and other development;

Aquatic MIS besides Wild Trout and Sunfish; the majority of streams on the Forest have NO Trout; perhaps darters, sculpins, and madtoms, and/or species dependant on clean gravel for reproductive success (McCormick, F.H. et al. 2001).
The above deficiencies are rectified in the revised Plan.

Aquatic Species
Problem:
The surrogate species used to monitor the Forest (such as Trout or Sunfish) do not exist in many of the streams affected by management activities on the Forest. In addition, some of the species assessed by the FS, such as aquatic macro-invertebrates, apparently are not effective at indicating or detecting degradations. And species for indicating the health of intermittent and ephemeral stream habitats and populations are lacking.

The Forest Service is required to continually monitor and evaluate their management activities. Cf. 16 USC § 1604(g). Thus, monitoring and inventory are critical parts of implementing the Plan. They are essential for efficacious adaptive management.
To assess the impacts to fish or aquatic species, Brook Trout and sunfish are used as MIS on the GWNF (see 1993 LRMP 2 - 8-9).
However, according to numerous site-specific EAs, trout and sunfish do not exist in the project areas (see, e.g., Pedlar RD Shady Mountain TS EA-43).

As a consequence, there are no MIS in such project areas with which to survey, inventory, and monitor so as to estimate, gauge, analyze, and assess the affects of the projects and existing roads upon aquatic populations and communities.

Nor are there any MIS in such project areas with which to survey, inventory, and monitor so as to estimate, gauge, analyze, and assess the affects of future projects upon aquatic populations and communities.

Nor are there any MIS in such project areas with which to survey, inventory, and monitor so as to estimate, gauge, analyze, and assess the affects of past projects upon aquatic populations and communities. There are no aquatic MIS with which to assess the impacts of the previous logging and "X miles of open unpaved road" there and, consequently, nothing in the projects' administrative records on the effects (based upon MIS monitoring) of these roads and recent past cutting upon aquatic populations.

And there are no MIS in such project areas with which to survey, inventory, and monitor so as to estimate, gauge, analyze, and assess the cumulative effects upon aquatic populations and communities from those projects in conjunction with other past, present, and reasonably foreseeable future actions.

Even if trout or sunfish are not present, streams and waterways in project areas have aquatic populations and communities living in them. These species, populations, and communities are dependant upon the aquatic habitat in these streams. And there may be populations of Locally Rare species in these streams. Various beneficial uses that we gain from project area streams are dependent upon the existence of these aquatic species, populations, communities, and diversity.

Further, there are no indicator species that are monitored in intermittent and ephemeral streams, many of which exist in project areas.

Aside from fish, the Forest Service also uses macroinvertebrate bioindicators for Forest streams in some analyses (such site-specific

macroinvertebrate bioindicator data does not exist for many project area streams). But the credibility of this data for determining the significance of impacts is questionable as they may not accurately indicate the existing stream channel condition or levels of sedimentation (July 1999 GW-JNF Monitoring Report appendix F pp. 7 & 1). Reliance on this data means that the condition of and impacts to populations and habitat are not being properly considered, disclosed or analysed.

Thus far, the FS has been deficient in considering and analyzing this issue involving monitoring inadequacies. The DCER is deficient in its consideration and analysis of potential impacts of the proposed Plan. A Forest Plan cannot properly implemented without adequate monitoring and inventory protocols. It is illegal to implement site-specific projects that may have significant impacts upon stream populations and habitat without adequate means/methodology to monitor and assess the impacts upon those populations and habitat. To continue to operate in this fashion violates the NFMA, NEPA, MUSYA, and/or APA.

The revised Plan has clear monitoring proxies/indicators for gauging impacts to the communities and diversity of all the waters on the Forest that do not have Trout or sunfish (including intermittent and ephemeral streams).

Mountain Treasures

The revised Plan allocates all of the GWNF Mountain Treasure areas to management prescriptions/areas that are not suitable for timber production, timber harvest, road construction, and mineral/energy development. Fully develop and study in detail this feasible option for managing the Forest. Another feasible and pertinent option that needs to be examined in the broad range of alternatives is to manage the Mountain Treasures consistent with the 2001 Roadless Area Conservation rule. Implementation of these options will achieve or assist in achieving numerous goals, objectives, and desired conditions.

Thus far the GWNF planners have not performed a proper "inventory" of "roadless areas" (this is separate from the evaluation of these areas as "Wilderness"). Most of the Mountain Treasures qualify as "roadless areas" (see comment letter of June 23, 2009). This improper and inaccurate inventory must be rectified in the EIS.

Oak Regeneration

Problem:

The Forest Service uses oaks to rationalize intensive management activities such as timber sales. The agency claims that if there are fewer numbers of oaks on the GWNF then it is unhealthy. The FS also claims that oaks need intensive even-age logging to maintain themselves on the Forest. The agency seems unwilling to reasonably address reason, science, and empirical evidence. The Forest Service would have the public believe that oaks will disappear without timber sales and that wildlife will disappear without unnaturally high numbers of oaks. However, "there is little data from long-term studies that support the oak to maple succession hypothesis" (McEwan, R.W. and R.N. Muller 2006).

Disturbances and moisture, edaphic, and topographic gradients are important factors in oak persistence (McEwan, R.W. and R.N. Muller 2006; Lawrence, D.M. et al. 1997; Mueller, R.F. 1996; Johnson, P.S. 1993; Zahner, R. 1992). "Given the proper conditions for regeneration

(i.e., canopy disturbance), oaks will successfully seed into subxeric and mesic sites and can obtain canopy positions on those sites." (McEwan, R.W. and R.N. Muller 2006; see also Clinton, B. 2003) Much of the GWNF is relatively dry compared to other places in the East and there is certainly no "absence of disturbance". In this region, over time a more diverse mixture of tree species (not so dominated by oaks) can be expected to naturally develop and exist, particularly at more mesic sites (Braun, L. 1950).

However, this natural development has been impeded and truncated, in the past and continuing into the present. Many of the lands constituting the GWNF were subjected to numerous human generated disturbances in the recent past, such as post-European-settlement logging, fires, agricultural activities, and introduction of the Chestnut blight. To various degrees and extents, these past anthropogenic actions have altered the composition of the vegetation. As a result, at various sites the present-day forests of the GWNF may contain an unnaturally high proportion of oaks. Thus far, the Forest Service has been intent on perpetuating this artificial condition. The reason for this is clear: Oaks are the primary commercial tree species found on the GWNF. The "need" to regenerate oaks by intensive logging is a primary rationale for most timber sales and prescribed burns. However, oaks are not fire dependant. And on the GWNF it is not just intensive even-age logging by itself that results in the regeneration of oak stands. Oak stands result from even-age logging FOLLOWED BY timber stand improvement FOLLOWED BY precommercial thinning FOLLOWED BY crop tree release FOLLOWED BY commercial thinning (usually with applications of herbicides along the way). The exact order or nomenclature or number of these applications may vary, but regardless, it is this accumulation of various "management" actions, costing lots of tax-dollars and which constantly remove other species and/or manipulate proportions of species, that may ultimately result in a preponderance of oaks at sites subjected to even-age logging. Many sites subjected to even-age cutting on the Forest are soon dominated by Red Maple (see, e.g., the Chestnut Oak Knob project area on the NRRD). It is to deal with this so-called "undesirable" species, and others, that the post-logging applications are necessary.

The agency has thus far failed to fully and fairly consider and explicitly disclose all of this in its public disclosure, evaluation, and selection of a purported "need" (or objective or goal or desired condition) to use intensive even-age cutting to maintain oak stands on the Forest. Nor are all the costs of these "management" actions properly/explicitly accounted for in the economic analyses for individual timber sales (in this way, the below-cost nature of sales and the subsidization of private timber industry profits are hidden from the public).

Resolution:

The FS recognizes that, barring a catastrophic plague, oaks are not going to disappear on the GWNF. Natural disturbance regimes that operate on the Forest have maintained oaks in the past and can reasonably be expected to do so in the future. The FS also recognizes that the numbers of oaks currently on the Forest are in many ways an artifact of past intensive human disturbance and that fewer oaks on the Forest is not unhealthy.

Maintaining artificially inflated numbers of oaks is no longer a "desired condition" in the revised Plan. The agency does not use misrepresentations, misperceptions, and fear-mongering regarding oaks as a rationale for spending millions of tax dollars fabricating "desired conditions" through timber sales and increased prescribed burning.

The Conservation Alternative calls for the Forest Service to fully and fairly consider scientific knowledge and empirical evidence regarding regeneration of oaks, to monitor oak reproduction in natural canopy gaps, and to fully inventory the numbers of such gaps and the amounts of oaks present (see, e.g., Clinton, B.D. 2003, Lynch, J. and J. Clark 2002, Beckage, B. et al. 2000, Miller, G. and J. Kochenderfer 1998, and Johnson, P. 1993).

Old Growth

For explication of this significant issue see the report "And Still They Fall: A Report on Old Growth Logging in the George Washington National Forest" at HYPERLINK "http://www.wildvirginia.org" www.wildvirginia.org or HYPERLINK "http://www.wildlaw.org/OldGrowthWhitePaper2ded.pdf" www.wildlaw.org/OldGrowthWhitePaper2ded.pdf; incorporated by reference. See also "Report on Old-Growth Forests: Post Harvest Survey and Monitoring of the Harvest, Hoover Creek Timber Sale, George Washington National Forest, Alleghany County, Virginia" by Aubrey O. Neas, Jr. dated January 19, 2005; incorporated by reference. Both of these reports have already been submitted to the Forest Service.

The public has notified the Forest Service numerous times about deficiencies regarding treatment of old growth on the GWNF (see, e.g., June 22, 2005 and March 3, 2006 Belinsky/WildLaw letters to Supervisor Hyzer regarding old growth identification and the Chestnut Oak Knob timber sale). The DCER and DLRMP do not address the deficiencies outlined in the above-referenced letters, white paper, and report. In fact, the FS proposes to make the situation even worse by doing away with inventories of OGFTs 21 and 25.

As a result of past and ongoing depredations, old growth forest habitat is now considered "critically endangered" in the Southeast, with old growth surveyors and analysts estimating that little more than one-half of one percent of the forest cover in the southeastern US is in old growth condition (USDA FS 2002 at p. 20; see also, Noss, R. et al. 1995 at p. 50). Gradually maturing forests are just beginning to fill in the gaps between these sparse, tiny old growth patches.

Despite this depauperate and devastated landscape context, the FS has nonetheless proposed to not just continue to cut old growth, but to actually make such depredations easier by considering even more GW old growth to be "suitable" for logging.

Old growth is regularly cut down on the GWNF. Old growth acreage of "dry-mesic oak" is currently considered to be "suitable" for logging. This "forest type group" (OGFT #21) is the most prevalent on the Forest, making up 678,000 acres or 64% of the Forest (see FEIS App. H - 3).

Recent timber sales, such as those of the Hematite, Hoover Creek, and Overly Run areas, took place on sites that may not have been logged for 200 years or more, if ever. Old growth forests have been logged in the Hiner Hollow, Dowell's Draft (North River RD), and Mulligan projects (Warm Springs RD). The Mulligan logging project occurred on the upper elevations of the highest ridge in the GWNF.

Now, unfortunately more cutting of OG is proposed by the FS, along with less analysis and disclosure. The FS is now proposing to also cut OGFT 25 (in addition to OGFT 21) on suitable acreage (see proposed

Option C-3 at DCER-24). And it "will not be inventoried for old-growth characteristics since acreage and patches existing and developing will be enough to meet late successional or old growth needs and no inventory or analysis will be done prior to any timber harvest project."

Apparently, despite the extreme rarity of eastern old growth, the GWNF planners believe there is an "adequate" amount to cut. "The agency would not propose to harvest in any OGFT except OGFT 21, . . . We would continue to inventory for old growth characteristics in suitable timber stands, even though an adequate network of growth or potential old growth is already in place." (DCER-24).

This statement regarding "inventory" and "harvest" is simply not true; see, e.g., OGFT 25 in Option C3. And beyond this, how were amounts determined to be "adequate"? What are the criteria? How was this determined in light of the fact that the agency has not made a meaningful effort to "identify[y] actual existing old growth" on the ground? How was it determined that "acreage and patches existing and developing will be enough to meet late successional or old growth needs"? How were "needs" determined and what are they?

What exactly is a "remnant" tree? A remnant from what? Human disturbance or natural disturbance? How does a remnant tree differ from a tree that is an old survivor? What is the difference between long-term canopy persistence and being a "remnant"? The FS has apparently been using the "remnant" terminology to make improper determinations that sites with old trees are not old growth (see, e.g., the Maybe and Chestnut Oak Knob timber sales on the NRRD).

An old-growth criterion that requires at least 30 old age trees per acre may never be reached under stand conditions on this Forest. So then why do the GWNF managers persist in using such an unreasonable protocol when charged with identifying old growth in the field?

The above issues/concerns/questions are just some of the problems. As detailed in the submissions cited in the first two paragraphs of this section, there are many other unreasonable, arbitrary, or capricious dealings with old growth on this Forest.

One would think the intense conflict during the last decade over cutting old growth on the GW would have been sufficient to convince the GW staff that there was a need for a change in the GW Plan direction that allowed the cutting of some forest types of old growth. Instead, here they are proposing to make the present situation even worse. This is simply intolerable and unreasonable.

We must restore integrity to our old growth criteria, identification, and stewardship. All acreage that meets GWNF FEIS age criteria or the Region 8 Old Growth Guidance criteria, whether it consists of a complete "stand" or not, must be designated as unsuitable for timber harvest or other intensive ground disturbance. The currently unreasonable requirement for the number of large or old trees per acre must be reevaluated and revised according to best conservation practice and scientific information. The ages of the oldest trees must be accurately identified, and improperly determined timber inventory data that does not gauge the true age of a site must not be used. The Conservation Alternative calls for the conscientious identification of small, medium, and large tracts of old growth and their linkages in our GWNF.

The revised LRMP clearly identifies/designates how and where a network of interconnected small, medium, and large patches of old growth is established on the GWNF.

The revised LRMP clearly and explicitly deals with the problems brought to the agency's attention regarding the monitoring, inventory,

and identification of old growth on the Forest (e.g., faulty age classification, basing identifications upon an entire "stand").

ALL possible/potential/actual old growth (based on verified age data and/or field work) of any size patch is strictly protected from (i.e., not "suitable" for) logging, roading, and other development. The GWNF planners examine and develop in detail this option/objective/guideline/dfc for managing the Forest.

Rare Species

"When adequate population inventory information is unavailable, it must be collected when the site has a high potential for occupancy by a threatened, endangered, proposed, or sensitive species." See Std. 240 at GWNF LRMP 3 - 149.

To maintain the Forest's diversity, communities, and sustainability, the Forest Service/revised Plan must retain and adhere to this directive to collect population inventory data on sensitive plant and animal species. This standard/guideline is revised to read "When adequate population inventory information is unavailable, it must be collected when the site has a high potential for occupancy by a threatened, endangered, proposed, sensitive, or locally rare species, or species of concern."

"Locally Rare" species and the FS/Plan's current failings to protect them: These species must be fully addressed and the revised Plan contains explicit goals, objectives, guidelines, desired conditions, and standards that strictly protect their populations.

The numbers, condition, and distribution of populations of Sensitive Species: These species must be fully addressed and the revised Plan contains explicit goals, objectives, guidelines, desired conditions, and standards that strictly protect their populations.

Since the current Plan was adopted in 1993, scientists with the Division of Natural Heritage of the Virginia Department of Conservation and Recreation (DCR) have identified additional areas with significant biological values, including 146 new stand-alone sites as well as extensions to existing SIAs, and they recommend that 111 of these new sites be designated as SIAs (L. Smith pers. com. 2007, and see Wilson, T. 2000 and Smith, L. 1991). In addition, many other undesignated threatened and endangered areas exist: some have yet to be officially discovered, and some have been identified by scientists or citizens but have yet to be officially recognized. Furthermore, our GWNF includes a significant amount of acreage in West Virginia that has yet to be surveyed for special biological sites.

All areas recommended by Virginia Division of Natural Heritage for Special Interest Areas are allocated to SBA or RNA prescriptions (unless in Wilderness or Wilderness Study Areas).

The Peters Mountain/Snake Run Ridge area on the JRRD in Alleghany County (with perhaps the largest tract of old growth in the central Appalachians) that was identified by the VDNH is designated as a SBA or, better, a RNA to protect its integrity and sustainability (see Wilson, T. 2000).

The upper slopes of Little Mountain (Hoover Creek) on the JR and WSRDs are allocated as a SBA or RNA. There is a significant tract of old growth forest here (Messick, R. 2002, and Neas, Jr., A.O. 2005).

The area of Threemile Mountain - Riles Run (SW of Columbia Furnace on

the Lee RD) is designated a RNA or SBA due to its exemplary biodiversity and presence of rare species. Around 70 years ago this site was identified on GWNF maps as a "natural arboretum" that included every tree species then known to occur on the Forest.

Regarding the Swamp Pink, only "the majority of the Forest's Swamp Pink habitat is in Wilderness or SBAs" (DCER-52). So, it is not clear that all the populations are "conserved and protected from potentially damaging activities." (id.) Some "Swamp Pink populations that are currently in MA6 along the Coal Road would benefit from a change to SBA designation . . ." (id.).

The same is also true for the Tiger Salamander (Ambystoma tigrinum).
The entire Coal Road corridor should be designated an SBA (encompassing an expansion of the current Maple Flats, Loves Run, and Big Levels SBAs to connect these areas).

The salvage logging of dead, dying, or damaged trees is not appropriate in SBAs (i.e., "Botanical – Zoological Areas").
***** Add Guideline for SBAs: These areas are not "suitable" for timber harvest/production, road construction, or mineral/gas/energy development.

***** Add Guideline for SBAs: Recreational access through these areas may be restricted in order to protect zoological or botanical resources.
***** Add Guideline for SBAs: A high or very high scenic integrity objective should be met or exceeded across all scenic classes when designing management activities.
***** Add/amend Guideline: The Forest, outside of Indiana Bat primary protection areas and special zoological – botanical areas, is generally suitable for nonmotorized trail construction or reconstruction.

The Forest Service must formally consult with the USFWS regarding the revised Plan.

Under the revised Plan, if thorough and meaningful site-specific surveys for T & E species are not performed, the FS must reinitiate consultation at the project level and secure a site-specific "incidental take" statement. This is reasonable as the FS is of the opinion that Forest Plans do not actually do anything, so a programmatic "incidental take" statement would be virtually meaningless or invalid.

Indiana Bat (Myotis sodalis)
The FS is moving as if tacitly assuming that Indiana Bats are or may be present at project areas on the GWNF (see BEs for numerous timber sales). But if they are there, exactly where are they?
The Forest Service typically claims "[t]here is potential unoccupied habitat for the Indiana bat within the project area . . ." (see, e.g., 2005 GWNF JRRD AHTS BE). However, meaningful and scientifically valid measures must be taken so as to ascertain with any reasonable probability if the habitat at project sites is actually "occupied" by the Bats.
Many project areas contain potential roost habitat and maternity sites, and the site-specific actions proposed may affect the Bats. For these project areas meaningful site-specific population inventory information is absent from the GWNF FEIS and Monitoring Reports. Meaningful site-specific population inventory/monitoring information must be obtained. As a TES species, surveys for the Bats are required

at project areas (see GWNF LRMP Std. 240).
The GWNF Plan has Standards mandating distinct no-disturbance zones around roost trees and maternity roosts. However, when implementing the current Plan through site-specific projects the Forest Service typically fails to ascertain with feasible methods exactly where the Bats are occupying such trees/habitat at proposed disturbance sites. Adequate population inventory information is not available and not being obtained for most project sites. In this way, it is not known or determined where or even if the Plan strictures for roost trees and maternity roosts need to be applied there at the specific project areas. The agency has thus far failed to honestly address and disclose this significant uncertainty.
So not only is it uncertain whether the agency is complying with the allowable ESA Incidental Take, but meaningful compliance with the Plan is also subverted and thwarted. This is unreasonable and capricious. And "mitigation" that passively offers an unreliable "if" of unknown, dubious, and unverifiable effectiveness (see, e.g., "if" any roost trees are located or identified at mitigation Standards in Plan referred to in the DN and at EA-10 for the Lee RD Laurel Run 2008 timber sale) is also improper and insufficient. Through this misfeasance Plan implementation violates the APA, the Plan, the NFMA, the NEPA, and the ESA.
Daytime "walk-throughs" of a project area do not constitute a good-faith or meaningful effort to determine whether the Indiana Bat and Big-eared Bat are present in the project area. The Bats are hidden during the day and are active at night. So of course "no Indiana bats were seen" during recent "surveys" (see, e.g., DM/BE for Lee RD 2007 prescribed burns). Failure to make a good-faith or meaningful effort to locate the Bat in a project area violates the NFMA and its regulations. In violation of the ESA, the failure to perform reasonable and effective surveys (night-time mist nets and Anabat detectors) does not place "top priority" on this Endangered species. The Forest Service must not fail to take the logical, reasonable and prudent actions that lead to the Bat's "recovery" as mandated by the ESA.
By not properly surveying and monitoring sites either before or after ground disturbing activities, the Forest Service does not reasonably ensure that the "authorized levels" of "take" (viz., no more than 10 Bats annually) are not being exceeded.

The Indiana Bat is retained as a MIS. The revised GWNF LRMP requires that reasonable, effective, and site-specific surveys meaningful (night-time mist nets and Anabat detectors) be conducted prior to ground disturbing projects (e.g., logging, burning, road construction, mineral/energy development). In addition, protective zones around hibernacula caves are expanded and strengthened.

Mussels
Of concern are impacts to the Yellow Lampmussel (Lampsilis cariosa) and Brook Floater (Alasmidonta varicose).
Likewise, impacts to the Green Floater (Lasmigona subviridis) must
be fully and fairly considered. Various sites on the GWNF contain habitat for this mussel. The Terwilliger reference (cited in GWNF BEs) states: "The green floater occupies very small to small streams, places where other mussels often are not found." According to Terwilliger, " it has declined dramatically in Virginia, probably as a result of habitat loss and water quality degradation." The Floater is "very rare" in Virginia (Terwilliger, p. 270). The species may be even more rare than described. For example, it is listed as an

endangered species in neighboring North Carolina. The Green Floater is at risk here and in other locations throughout its range.
This mussel is a Sensitive species and the Plan requires project-level surveys for Sensitive species. Various project area and areas in the immediate vicinity contain habitat for this species. It is known or suspected downstream at project areas.
It is clear that potential habitat for the species in project areas and downstream should be surveyed and analyzed. However, at various sites (e.g., Shady Mountain, Hamilton Knob) surveys of streams for this species were not performed, nor were viability analyses. At various sites, the EAs did not consider impacts to aquatic MIS at all (they did not exist), thus the agency did not consider the effects to or impacts to viability of the mussel. Further, typically there is no site-specific MIS monitoring information that would be applicable to the Mussel.
Implementation of the proposed (see DCER & DLRMP) cutting and maintenance of excessive road densities could negatively affect this species. Harmful sedimentation may settle into stream segments where they exist here, regardless if it is purportedly immeasurable or insignificant downstream.
"When adequate population inventory information is unavailable, it must be collected when the site has a high potential for occupancy by a threatened, endangered, proposed, or sensitive species." See GWNF Plan. This information, required for a well-informed well-reasoned decision and to comply with the Plan, has not been gathered at project sites for this species.

There are technically reliable and feasible methods of collecting this information. The data can be obtained, the Forest Service has simply decided not to collect it and allocate budgetary priorities elsewhere.

Hard data on their population status in this planning area has not
been gathered, nor has a rigorous viability analysis been performed (see 1993 GWNF FEIS and subsequent monitoring reports). No minimum viable population has been established for this species on the planning area (see 1993 GWNF FEIS).

The FS has not properly considered this species, not gathered sufficient monitoring and survey information, and not ensured population distribution and viability (see DCER and DLRMP).
The same concerns and issues expressed here for the Green Floater apply to the Brook Floater and Yellow Lampmussel as well.
The revised Plan explicitly addresses the potential for Plan or project implementation to result in significant impacts (direct, indirect, and/or cumulative) to the distribution and/or viability of the Green Floater, Brook Floater, and Yellow Lampmussel. The revised Plan ensures that special aquatic surveys needed to detect these mussels and the James Spinymussel occur at all site-specific project areas within their range where there is suitable habitat. The revised Plan ensures that habitats for these mussels are strictly protected from loss and/or degradation.

Pine Snake

The Pine Snake (Pituophis melanoleucus) is one of the rarest reptiles in Virginia. “Northern pine snakes have fairly narrow habitat requirements, and, as their name suggests, prefer well-drained, sandy, upland pine and pine-oak forests throughout their range” (NJDFW 2009). Habitat of the types known to be used by Pine Snakes (upland pine and pine-oak forests) commonly occur on the Forest, and in addition such sites are commonly the project areas for intensive activities such as timber sales.

Pine Snake habitats need to be strictly protected. The revised Plan explicitly addresses the potential for project implementation to result in significant impacts (direct, indirect, and/or cumulative) to the distribution and/or viability of the Pine Snake. The revised Plan ensures that special surveys needed to detect the Pine Snake occur at all project areas within its range where there is suitable habitat. The revised Plan ensures that habitat for the Pine Snake is strictly protected from loss and/or degradation.

Wood Turtle

Thus far, management for the Wood Turtle (Glyptemys insculpta) proposed by the GWNF planners is strikingly inadequate. Proposals are little more than the codification of business as usual on the Forest. For example, see "CM 6.01 No logging activities allowed within 100 feet (30 m) of the edge of perennial streams and seeps, except to enhance habitat for wood turtles." (GWNF "Draft Aquatic Ecological Sustainability Analysis" of February 2010). This meager "protection" is little more than a typical "riparian buffer" that has been in place throughout the Forest (whether there are Wood Turtles or not) since 1993 and the adoption of the NFMA regulations.

Further, there is much more to the Turtle's use of habitat than merely "openings" (pg. 15 of "Draft Species Diversity Report George Washington National Forest March 2010"). This is highly misleading as regards the need for "additional Plan components" and the inadequacy of provisions for "ecosystem diversity".

In summation, the agency has thus far failed to adequately consider the true nature of the Turtles' habitat use, distribution, viability, and sensitivity, and management impacts upon them.

The Revised Plan contains Objectives, Guidelines, Desired Conditions, and Standards for the restoration and strict protection of the Wood Turtle's (Glyptemys insculpta) habitat and populations on the Forest. Significantly stronger spatial and temporal restrictions on activities in the their habitat are implemented. (For explication of concerns and issues regarding the Wood Turtle, see "Wood Turtle Conservation on the GWNF" submitted by Steven Krichbaum to the FS/GWNF in June of 2009, S. Krichbaum comment letters on Forest Plan revision to USFS dated August 8, 2008, October 24, 2008, and January 8, 2009, as well as all the reports and scientific literature regarding the Wood Turtle I have submitted to the agency 2004-2010; all incorporated by reference.) One constricted "emphasis area" (of dubious emphasis on the Turtle) is unreasonable and inadequate for maintaining the species' population viability and distribution on the Forest.

The GWNF planners need to fully consider and implement appropriate habitat protection and restoration actions; these may include road and trail closures, removals, and relocations, as well as restriction of some recreation activities and other access. Logging and road building must cease at all these sites ("not suitable").

Strict precautionary protection measures are particularly needed given the dearth of data pertaining to past and current demographics, mortality, and recruitment and the absence of population viability analyses. With a lack of strong scientific data on the status and trends of their populations on the Forest, it is particularly unreasonable and illegal to continue to inflict management actions upon them that bear the potential for take and/or significant harm.

Current knowledge and evidence on Wood Turtles and their habitat indicate that Turtles on the GWNF would benefit most from management that allows for the development of wild old-growth forest conditions (with their full complement of woody debris, canopy gaps, niche complexity, and habitat mosaic) with as little human interference/disturbance/disruption as possible. Reason and

information indicate that generally the best way for the Forest Service and just about everyone else to deal with Wood Turtles is to leave them alone and disrupt their habitat as little as possible. Wood Turtle populations that are currently in lands allocated to Management Areas 15 and 17 (perhaps others) would significantly benefit from a change to Special Biological Area ("SBA"), Research Natural Area ("RNA"), Wilderness Area, or Wilderness Study Area designations.

Wood Turtles use terrestrial habitats far from wetlands for extended durations and maintain associations with wetlands of different types over the course of a year (such as seeps and intermittent streams). In recognition that riparian areas and watercourses exist as a continuum (DCER – 30, Pringle, C.M. et al. 1988, and Gregory, S.V. et al. 1991), there is a need to protect the full range of ephemeral, intermittent, and perennial streams as well as seeps, springs, and other wetlands. For the above reasons, the boundaries for designating special biological areas and/or protected buffer/riparian/stream-associated terrestrial habitat zones should generally (depending on topography, habitat type, and land use) encompass those areas within 200-350 meters of both sides of the occupied waterway (i.e., encompassing core habitat). In this way much of the habitat mosaic critical to all of the Turtle's life history needs is included and its ecological integrity sustained and buffered (see, e.g., Akre, T. and C. Ernst 2006, Roe, J.H. and A. Georges 2007, Semlitsch, R. D., and J. R. Bodie 2003, and Burke, V.J. and J.W. Gibbons 1995).

In the revised Plan, Wood Turtle population locations are stringently protected from logging, burning, and road construction, as well as some recreational activities. In the absence of and/or in addition to allocating and protecting these sites as "special areas" (e.g., SBAs or RNAs) with their own prescriptions, meaningful protections (Guidelines, Standards, etc.) are in place to restrict the aforementioned harmful activities from occurring within the Turtles' core habitat.

Recreation - Non-motorized and Primitive

Problem:

Recreational opportunities and scenic beauty are lost and damaged under the current management regime on the GWNF.

Most people come to the GWNF to picnic, hike, camp, view birds and other wildlife, view and photograph scenery, pick mushrooms, nuts and berries, bike, fish, or hunt. Around 70 miles of the world-renowned Appalachian Trail traverse the Forest. The estimated income and jobs contributed to local economies from recreation and wildlife on the National Forests is over 30 times that derived from logging these Forests (Niemi and Fifield 2000 at 21). A similar relationship (around 30:1) holds for the extrapolated value of unroaded and wild areas (id.). Yet the Forest Service budget priorities reflect otherwise, with around 40% of expenditures on the Forest going to timber sales and roads (see M&E Reports numbers and 1993 GWNF FEIS).

By the Service's own analysis, the future demand for primitive or non-motorized recreation is expected to greatly exceed supplies. And supplies of developed or motorized forms of recreation are estimated to be already well sufficient to meet demand. Yet what is the Forest Service response to this? It plans not for meeting a demand, but for creating a supply - of roads; providing a surplus of motorized access while destroying or degrading remote features in short supply. (See the numbers in GWNF and JNF FEISs)

Some GWNF lands provide a sense of remoteness, stillness, and

solitude. The contrast value these lands offer to the developed landscape is one of their most important aspects. The Forest Service calls lands that exemplify these recreational opportunities "semi-primitive non-motorized" (SPNM). "SPNM land is the most remote and distant from the sights and sounds of human activities; offers abundant opportunities for solitude and serenity" (GWNF FEIS Glossary). Such opportunities are rare and precious, especially in such close proximity to the Eastern megalopolis. Even in the Southern Appalachians, part of the East's least developed area and of global significance (see Gil, P.R. 2002), only a meager 2-3 % of the entire 37 million acre region is in this condition (see Southern Appalachian Assessment Social Technical Report at pages 140-150 and 178-182). Because of so many roads and other developments, even on the GWNF these SPNM lands comprise only 14% of the Forest.
Increased restoration and protection of the GWNF affords us no better opportunity to counteract the ubiquitous industrialized assault upon the sounds of silence. The Forest Service defines recreational opportunities by the amount of roads an area has, or its distance from them. There are over 53,000 miles of roads in Virginia and over 160,000 miles of roads in the Southern Appalachian region. To be designated officially "Primitive" by the Forest Service a tract of land must be at least 3 miles from an open road. Our Forests are so heavily roaded that there is not a single "Primitive" recreational area available in any eastern National Forest.
Recreational use of designated Wilderness has increased substantially over time; in the South, visitation of National Forest Wilderness in 1996 was 5 times what it was in 1975 (Loomis & Richardson 2000 at 9). This implies a continuing strong demand for the types of non-motorized recreation opportunities afforded by roadless areas and other wildlands. Visitor use of Wilderness Areas on southeastern National Forests is forecasted to grow by about 1% per year for the next fifty years (Loomis & Richardson 2000 at 11). It is clear that the demand for backcountry dispersed recreation opportunities is increasing in an environment of diminishing supply (Roadless Area CR FEIS 3-215).

Resolution:
The revised Plan provides clear direction for significantly increasing the amounts of “SPNM” and “Semi-Primitive Motorized 2” acreage available on the Forest and for strictly protecting all such lands from development (they are not “suitable”). The potential for restoring/providing “Primitive” conditions on the Forest is fully and fairly analysed and disclosed. A listing and map with all the Forest’s trails clearly identified is provided in the public documentation. The Plan requires that timber sales not be placed next to trails and other important recreational areas on the Forest.

Restoration
“Forest restoration begins with comprehensive transportation planning that identifies and funds upgrading, maintenance, or decommissioning forest roads.” (Jim Burchfield and Martin Nie. September 2008. “National Forests Policy Assessment: Report to Senator John Tester”. College of Forestry and Conservation, The University of Montana, Missoula, MT)

It is not apparent that the GWNF planners are performing the comprehensive transportation planning necessary to meaningfully address significant public issues and reasonably revise the Plan.

When the FS does mention restoration, it often refers to maintaining or fabricating cultural landscapes that are dependent on anthropogenic inputs for their structure, composition, and/or function. This is not

restoration in the valid sense of the concept. See DellaSala, D.A. et al. 2003.

One of the fundamental guiding principles of the ecological restoration we have in mind is to have as little impact as possible. Allow natural processes to restore as much as possible. Passive and light-touch actions are preferable to a heavy-handed approach. In other words, restoration is a close-to-nature approach, a level of intervention to the point where forest self-renewal processes operate. For example: "Where old-growth riparian forests are not currently available, mature riparian forests offer a source for future old-growth structure, provided forest management practices are employed that either maintain or enhance, rather than retard, stand development potential (Keeton 2004)." (Keeton, W. et al. 2005)

While protecting our wild areas is central to sustaining our GWNF, there is also a pressing need to rehabilitate past damage with authentic restoration projects. Unfortunately, harmful activities have been allowed under the guise of restoration (such as intensive logging in the riparian areas of North River). One of the fundamental guiding principles of sound ecological restoration is that it has as little impact as possible, and allows natural processes to restore as much as possible (id.). In other words, authentic restoration stays close to nature and uses the lightest level of intervention possible to bring the ecosystem to the point where forest self-renewal processes can naturally occur.

Large-scale reestablishment of unmanipulated forest conditions is perhaps the greatest single improvement that we can implement to support biodiversity and ecological integrity. See Noss, R. 1990b; Noss, R. 1991; and Noss, R. 1995. At this time, the prime opportunities for the reestablishment of even moderately large unfragmented wildlands in the Central Appalachians are found in blocks of low road-density land in the George Washington, Jefferson, and Monongahela National Forests. One primary conservation vision is to sustain native ecological systems and diversity by allowing for the landscape-level re-emergence of natural old-growth forest. This can best be achieved by working to maintain, restore, and connect existing large habitat blocks through 'passive' management (i.e., allowing natural processes to operate unimpeded) and through such actions as road closure and revegetation, invasive species removal, and the addition of woody debris to streams.

Restoration of the GWNF has been identified as vital to the long-term recovery of lost and diminished habitats and ecological conditions in our region. See Bratton, S.P. and A.J. Meier 1998; Halbert, J.E. and C.L. Chang (eds.) 1999; Hitt, T.P. (ed.) 1997; Irwin, H. et al. 2002; Taverna, K. et al. 1999; Morton, P.A. 1994; see also Honnay, O. et al. 2002.

Performing restoration is vital to meeting the National Forest Management Act and MUSYA requirements to conserve and sustain soils, watersheds, wildlife, ecosystems, and biodiversity.

Returning the grandeur of the American Chestnut to the Forest must be a Plan priority, as must be halting the loss of Hemlocks. Prior to introduction of the Blight, Chestnut was a dominant canopy species throughout many of the lands of the GWNF (see Braun, L. 1950). It had a tolerance for a wide range of site conditions and its growth and reproduction characteristics gave it a competitive edge over many species. Its widespread occurrence also confirms the lack of a significant natural fire regime here. (see Q. Bass material previously submitted to the GW-JNFs' managers during the revision of the JNF

Plan) Through the efforts of The American Chestnut Foundation a blight-resistant hybrid suitable for planting is or will soon be available.

There are many miles of currently open, closed, and temporary roads, "wildlife openings", and recent even-age logging sites on the Forest that could and should be used as planting sites to reintroduce American Chestnut. Various roads can be decommissioned, recontoured and revegetated with Chestnut. Similarly, the vegetation at various game openings and recent logged-over sites needs to be manipulated so as to reintroduce Chestnut at these sites. New logging is not needed to restore the Chestnut to the GWNF.

By using existent roadbeds for Chestnut restoration, several restoration goals (providing for remote habitat and recreation, interior forest, helping to impede the influx of invasive species, decrease road densities and road maintenance expenditures, improve watershed quality) can be accomplished in one action - past recent logging units have also fabricated patches suitable for plantings, should also use these.

The Forest's drinking-watersheds are priority areas for restoration (along with Mountain Treasures and SBAs): where non-critical roads (of maintenance level 1 or 2) are identified and targeted for decommissioning, closure, recontouring, and revegetating.
The current Forest-level "Roads Analysis" is insufficient for informing or dealing with this issue. The revised Plan must have guidelines, objectives, desired conditions, goals, and standards for explicitly addressing this significant issue and implementing such road- and water quality-related restoration and improvements. In this way the revised Plan will be consistent with Forest Service strategic goals # 1, 2, 3, 5, and 6.

Restoration priorities in the revised Plan call for the Forest Service to:
prioritize watersheds for restoration activities,
cease grazing allotments,
close targeted roads and revegetate them with blight-resistant Chestnut trees or other native species,
revegetate game openings with Chestnut trees or other native species,
combat Hemlock Wooly Adelgid,
transform roads into trails,
augment stream loadings of large woody debris,
restore riparian areas by relocating camping areas, trails and roads away from streams in areas such as North River and Paddy Run,
reforest riparian pastures at Jackson and Shenandoah Rivers,
promote increased Beaver populations (Naiman, R.J. et al. 1988; Elliot, J. 1990),
work to return extirpated species (e.g., Cougar, Elk?) to suitable habitat (Taverna, K. et al. 1999), and
eradicate and prevent introduction of invasive species.

Riparian Areas
Problem:
On the GWNF intense ground-disturbing management activities take place or have taken place that harm or degrade riparian and aquatic conditions and biota.

Riparian areas are the transition zones between aquatic and terrestrial habitat. They are the vegetated areas around all stream channels, seeps, springs, wetlands, bogs, ponds, lakes, and

impoundments. They are identified by characteristic types of vegetation, soil, and land forms, as well as interactions between aquatic and terrestrial ecosystems (e.g., faunal movements, shade, or additions of leaf litter and woody debris). Riparian areas vary in width depending on the size and location of the waterway. They may be particularly vulnerable when associated with steep slopes or sensitive soils. In addition, numerous roads on the Forest are adjacent to and cross watercourses.

The full riparian areas of permanent and intermittent streams are not necessarily protected from logging on the GWNF. Under the current Forest Plan, only the first 66 feet of the riparian areas around perennial streams are considered unsuitable for timber management. The GWNF Plan provides for a vehicle exclusion zone" of only 33 feet around intermittent streams (GWNF LRMP 3 - 148). Ephemeral streams receive no direct protection in the GWNF Plan. And old stream channel braids that are presently dry are also open to cutting.

"Springs and permanent seeps were to be protected" - 26. But they are not; see for example the Paddy (cutting unit #2) and Slate (cutting unit #3) timber sales where logging occurred right over top of such sensitive habitats. It is not apparent from the draft planning documents how or even if the FS will prevent actions such as the above and protect springs and seeps in the revised Plan.

In the current Forest Plan and thus far in the revision process, the consideration of riparian areas by the GW planners is inadequate and unduly constrained.

Ilhardt (2000; cited in DCER) considers intermittent and channeled ephemeral streams to have riparian areas, in contrast to the 2007 draft Plan (see riparian corridors at pg. 11).

"Welsch et al (2000) recommend riparian forest buffer widths equal to at least two tree lengths."
See also Semlitsch, R. D. and J. R. Bodie 2003. Semlitsch (1998) and Semlitsch and Bodie (2003) suggest core zones up to 218 meters for pond breeding amphibians and up to 290 meters for amphibians in general. Semlitsch and Bodie (2003) suggest 127–289 m terrestrial core zones for reptiles. However, these dimensions may not be sufficient for some species (e.g., Tiger Salamanders or Wood Turtles).
At Vermont third and fourth order streams, a minimum buffer width required to include 90% of bird species was 75-175 m, while Veery and Pileated Woodpecker required 150-m buffers (Spackman, S. C. and J. W. Hughes 1995). "In Georgia, Hodges and Krementz (1996) surveyed riparian buffers of different widths along a river and found that species richness and the abundance of 3 of 6 focal species increased with increasing corridor width. Based on their observations, the authors suggested that buffer widths of 100 m would be necessary to maintain these species. In bottomland forest, the Barred Owl required buffers >500 m wide and several species required buffers >100 m (Pileated Woodpecker, Downy Woodpecker, and Northern Parula; Kilgo et al. 1998)." (Staicer, C. 2005) Also see Hodges, M.F. and D.G. Krementz 1996, and Kilgo, J.C. et al. 1998.

It is crucial to recognize and address the fact that riparian zones are not just buffers for aquatic habitat, but are themselves core habitat for various taxa. So the riparian zones/areas themselves need to be buffered from, for example, edge affects or recreation or roads. The upper watershed or upslope habitat can be just as important as the

narrowly defined "riparian" habitat. This is a cogent reason for making the strictly protected riparian or aquatic buffer areas as wide as possible (such as, e.g., two tree lengths or 300 feet, or at least 75, 127, or 290 meters from the stream bank).

See Semlitsch, R.D. and J.B. Jensen 2001, Semlitsch, R.D. and J.R. Bodie 2003, Crawford, J.A. and R.D. Semlitsch 2007, and Burke, V.J. and J.W. Gibbons 1995.

Aside from the salamander, turtle, and bird examples in preceding citations, a further species to consider regarding this issue is the Spotted Turtle (Clemmys guttata). It is known from the Pedlar RD and may exist on the North River and/or Lee RDs as well. This is a wetland species that can make lengthy forays into terrestrial habitat (50-250 meters away from water) in order to forage or nest (Ernst, C.H. et al. 1994).

Another species to consider is the Northern Red-bellied Cooter (Pseudemys rubriventris). Virginia is currently the southern limit of its global range. The northern part of the GWNF is within its range and suitable habitat exists (moderate gradient rivers and associated wetland and terrestrial habitat). This species' nest site is generally "10-250 m from the water's edge" (Ernst, C.H. et al. 1994).

A 300 feet no cutting/vehicle buffer for perennial streams, 250 feet for intermittent, and 200 feet for channeled ephemeral streams are appropriate, scientifically valid, and feasible to implement on the GWNF. Examine and develop in detail this option/objective/guideline/dfc for managing the Forest. Another option could be a 300 feet no cutting/vehicle buffer for perennial streams, 225 feet for intermittent, and 150 feet for channeled ephemeral streams. Under this Conservation Alternative the revised Plan would implement such protective strictures.

In the current Forest Plan, most of the attention given to water resources focuses on riparian areas. This is not sufficient. Management must address entire watersheds (at multiple scales/orders), not just riparian areas. The Forest Service is supposed to be engaged with "ecosystem management"; for planning purposes this entails the use of ecological units at scales that incorporate watersheds (Grumbine, R.E. 1990 & 1994; Noss, R. 1999). The paradigm of landscape ecology must also serve as a foundation for effective conservation (Harris, L.D. et al. 1996). The GWNF revised Plan must do much more than the current Plan or draft Plan in order to meet a major goal of the Forest Service Strategic Plan: "Improve watershed condition" (USDA Forest Service 2004).
This expanded consideration is necessitated not just by concerns for human drinking water quality, but also by other significant ecological concerns as well (Saab, V. 1999). See, for example, Angermeier (1995): Faced with poor understanding of the mechanisms of extirpation and even of the identity of vulnerable species, "the most reasonable approach to conserving aquatic species may be to maintain the ecological integrity of entire watersheds and drainages". For another example: "Our data suggest that in small stream ecosystems, a simple buffer zone of forested habitat is insufficient to maintain the stream conditions that support high salamander abundances. Instead, we found that salamander abundance was most closely related to the amount and type of disturbed habitat within the entire watershed." (Willson J.D. and M.E. Dorcas 2003)

In fact, it may be that the width of the buffer zones for the smaller headwater streams on the Forest, including the intermittent and

epehemeral channels (which are usually higher up and associated with steeper slopes), should actually be wider than the mitigation zones for the lower larger channels (Welsh, Jr., H.M. et al. 1998). This must be fully considered by the GWNF planners. This approach is consistent with the "ecosystem management" that the Forest Service is supposed to be employing. If this approach is not adopted, what is the clear justification for not doing so?

The DCER and DLMP fail to disclose the rational for not adopting significantly expanded buffers on the Forest in response to the above concern/issue. It appears that the agency has an unscientific bias towards "fisheries" (particularly Trout fisheries); this is not consistent with "ecosystem management". However, other riparian and aquatic biota and conditions (e.g., small headwaters, and ephemeral or subsurface flow) are significant and just as important for "watershed condition" (see, e.g., Freeman, M.C. et al. 2007). For example, some invertebrates exist in intermittent streams, but not perennial ones (cite).

Wallace et al. (1996) disclose that LWD generally does not move downstream in low order streams at mountain sites. Shallow, narrow channels with low stream unit power enhance the on-site retention of woody debris (id., pg. 120). This is especially true at the upper elevation headwaters. At such sites, LWD recruitment is dependant on the sources present at the sites. So the fact that LWD is not being removed from the streams or that sources are not being logged elsewhere downstream along the stream does not necessarily protect the conditions or potential where the logging is planned.

Removing potential sources of LWD recruitment at upper elevation logging sites with small streams will impact and impoverish the section of stream where said logging is done. This is a significant issue as LWD is essential to healthy stream functioning and many streams are already depauperate regarding this material.

As the FS states, "the importance of allochthonous matter increases as stream size decreases." (GWNF Monitoring & Inventory Report 2004-2007). "Research indicates that one-third of biomass of litter in a stream comes from distances beyond 100 ft." (DCER - 30-31) This is a significant amount, especially considering that the great majority of streams surveyed on the GWNF are impoverished of debris:

"Approximately 81% of the streams surveyed [942 miles] did not meet the desired future conditions of 78 to 186 pieces of large woody debris per kilometer." (GWNF Monitoring & Inventory Report 2004-2007 at pg. 5). And an important consideration is that "one-third" is an average, but these quantities vary with the size, gradient, and topography of the stream.

Resolution:

The Forest Service takes an expansive view of watershed integrity and recognize the critical importance of all waterways, not just perennial streams or those with fisheries.

All the Forest's streams, perennial, intermittent, and ephemeral, and their associated terrestrial habitat are strictly protected from harmful developments such as logging and road building. The strictly protected zone extends at least 200-300 feet out from both sides of a stream channel or the entire defined site-specific "riparian area", whichever is greater; they are not suitable for logging, road construction, or other development. Expansive no-disturbance protective zones are applied to all the Forest's perennial, intermittent, and ephemeral streams. Road decommissioning and obliteration to restore watershed integrity are a priority.

Guidelines that require precise field delineation of all riparian areas; guidelines that ensure the protection of conditions upslope of

the riparian area that contribute to the integrity of the defined "riparian area"; guidelines that recognize and strictly protect ephemeral and intermittent channels; and guidelines that provide more rigorous protection of riparian areas in areas with high road density or more intensive management activities.

Woody Debris and Litter
Problem:
Many streams on the GWNF are deficient as regards loadings of large woody debris. Leaf litter and woody debris such as branches and boles falling into streams is ecologically important for in-stream health, habitat niches, and productivity. Large woody debris ("LWD") creates pools, provides critical cover, and serves as a basis for food webs. Invertebrate groups generally known as shredders and collectors feed on and break down this organic matter. Species such as Wood Turtles and Brook Trout can greatly benefit from the cover and pools provided by LWD and the prey that is associated with this material (Wallace, J.B. et al. 1996). The structural integrity provided by woody debris helps stabilize the stream environment by absorbing the energy of flowing water and reducing the severity of erosion (Austin, S. undated, perhaps 2005).

Around 37% of 223 miles of streams surveyed 2001-2004 on the GWNF did not meet LWD desired conditions (Table 18 at G-24 in M & E Report 2005). Fifty percent of the 392 miles of streams surveyed in our George Washington National Forests from 1995 to 2005 did not meet desired levels of large woody debris necessary for healthy stream systems (GWNF DCER 2007 at pg. 26). In the most recent year of stream surveys, taken solely in the North River RD, 78% of all streams were deficient in large woody debris. As regards this impoverishment, the past is prologue.

Large woody debris plays an important role in structuring stream habitats (Welsh, H.M. et al. 1998). LWD is particularly important for pool formation, with pool density higher in old-growth reaches (Keeton, W.S. et al. 2005). For example, at Wood Turtle stream sites in VA and WV many pools are either directly formed or significantly influenced by LWD (Krichbaum, S. pers. obs.). The pools formed by debris dams are small-scale nutrient catchment basins that strongly influence community structure (Pringle, C.M. et al. 1988) (e.g., the provision of cover and potential Wood Turtle prey organisms).
Past cutting on the GWNF removed many of the trees that would have served as sources of LWD (Doloff, C.A. 1996). The LWD that potentially falls into small streams generally found on the Forest comes from the trees that are growing there on site around the streams; it is not transported to a site from miles away as happens on larger rivers. Protection of the riparian forest around streams is critical for this reason. However, the direct zone of influence as regards trees falling into or shading streams may include much more than just what is technically identified as the "riparian area". Unfortunately, portions of "riparian areas" as well as streamside zones of influence continue to be logged on the GWNF (see FEIS 3 - 149).
Studies have found that streams flowing through older forests receive the greatest variety of food for detritus-processing organisms (Austin, S.). Streams draining late-succesional and old-growth riparian forests display a gradual, but significant increase in LWD loadings (Hedman, C.W. et al. 1996; Keeton, W.S. et al. 2007). Trout were found to always use segments that had the most LWD. "In the absence of high fishing pressure, streams with large amounts of LWD appear to support higher trout density and biomass than streams with little or no LWD." (Flebbe, P. and C.A. Dolloff 1995)

LWD is also important in terrestrial ecosystems (McMinn, J.W. and D.A. Crossley 1996). Because of the past and ongoing intensive logging and other human-caused disturbance that has taken place, there is actually an impoverishment of dead wood ("large woody debris" or what are sometimes referred to as "fuels") on the great majority of forest sites in the GWNF and elsewhere in the East (Dolloff, C.A. 1996, and DCER).

Amounts of large woody debris deposition are directly correlated with forest age (see Keeton, W.S. et al. 2007, Spetich, M. et al. 1999, and Hedman, C. et al. 1996). LWD amounts are naturally much higher in wild old growth forests than in the many relatively depauperate areas that characterize our landscape (Hedman, C. et al. 1996, McMinn, J.W. and D.A. Crossley 1996, Spetich, M. et al. 1999, Webster, C.R. and M.A. Jenkins 2005, and Webster, C.R. et al. 2008).

Various mushroom species are important elements of the diets of various species, such as Wood and Box Turtles (Strang, C.A. 1983, and Jones, S.C. et al. 2007). Macrofungal and myxomycete fungi richness was significantly positively correlated with log size and amounts of CWD at old age oak and mixed mesic forest study sites in Ohio (Rubino, D.L. and B.C. McCarthy 2003). Similarly, mushroom diversity and amounts were significantly positively correlated with old growth and amounts of LWD in New Hampshire (Van de Poll, R. 2005).

Resolution:

No logging occurs in any riparian areas so as to preserve potential sources of LWD on site. Further, sites that are not officially considered to be "riparian" but that are within the contributory zone for LWD and shade (such as relatively far away up steep slopes) are not logged. This will help ensure the protection of upslope conditions that contribute to the integrity and resiliency of riparian areas. In addition, individual trees may be judiciously cut and felled into streams to provide LWD to streams that are deficient. Streams are prioritized for such treatments, for example based on the presence of rare species that benefit from such material.

Roads

Problem:

There is an excessive amount of road mileage on the Forest and the Forest Service continues to build still more. At present only two Management Areas on the Forest, MAs 14 and 15, have road density Standards; so 53% of our GWNF has no existing Plan standards limiting road density. Road density currently exceeds Standards on approximately 300,000 acres, or around 28%, of our GWNF. The national FS Roads Policy is not being implemented. The FS has not identified the minimum road system needed. The Forest-level "roads analysis" conducted in 2003 is inadequate for making management decisions regarding the road system on the Forest and insufficient for addressing issues and concerns raised by the public.

The road density Standards that currently exist only apply to "open" permanent Forest Service system roads; meaning that the Forest Plan allows an unlimited mileage of "closed" and "temporary" roads to be smashed through the GWNF. Plus, perimeter roads do not count in the calculations. Further, there is no standard that requires road density Standards to actually be met within any set time (see MA and Forest-wide Standards at the LRMP 3 – 4-158). It must be remembered that after seventeen years of "striving" on the GWNF, the FS is still not meeting road density standards on hundreds-of-thousands of acres.

The FS asserts that “motorized access must be balanced . . .” - 64
Though what balance is there with over 1800 miles of FS system roads and hundreds of miles of other state and federal roads and temporary roads and most of the Forest open to road construction? At present there is a grand total of 3,017 miles of permanent roads on the Forest (see Draft Plan at pg. 21). There is already an extreme disbalance. Around 975 miles (54%) are open year-round or seasonally to public vehicular traffic and 825 miles (46%) are closed (2005 GW-JNFs Monitoring Report App. G – 6). These figures apply only to “system roads” under direct Forest Service jurisdiction and do not include all the open county, state, or U.S. highways passing through the Forest.

Just of Forest Service-administered roads, this works-out to an overall density of 1.09 miles/mi2 or 1.65 miles/1000 acres. Including all the other state and federal roads passing through the Forest (around 808 miles), the permanent road density is over 1.5 miles/mi2. But approximately 825 miles of permanent Forest Service roads are closed to public vehicles, so the overall open road density on the Forest is still around 1.1 miles per square mile. Yet there are those who claim there is not enough motorized “access” on the Forest.

Over 95% of our 37-million acre Southern Appalachian region is crisscrossed with roads (SAMAB SAA 1996). Indeed, even in the Southern Appalachians, the East's least developed area, only a meager 2-3 % of the entire region is considered to be in the SPNM condition (SAA Social Technical Report at pages 140-150 and 178-182). Since only 12% of the total Southern Appalachian area is National Forest land, precious few opportunities remain to protect roadless habitat (SAFC "SAA Highlights", and SAMAB 1996).
Having at least 50% of the Forest in protected and restored Wilderness without roads would be a step toward true balance.

Strict protection of all the identified GWNF Mountain Treasures would assist in moving toward balance as regards Forest “access”. The FS must allow no road construction of any kind in these MT areas; and various roads currently within the MT areas will be selectively decommissioned, obliterated, recontoured, revegetated with native plants (e.g., Chestnut), and converted to trails. Fully develop and study in detail this option for achieving “balance” on the Forest.

Implementation of this option/objective/guideline/alternative/desired condition will help achieve Forest Service Goals 1, 2, 3, and 5 (see DCER pg. 4).

The agency’s proposed option (see draft Plan) can clearly result in increased roads open to public vehicles. The necessity or desirability for doing this is not apparent. Such an action may harm recreational opportunities for many Forest visitors, as well as harming wildlife and watershed conditions (Trombulak, S.C. and C.A. Frissell 2000). The FS must address these significant issues.
A better option is for the revised Plan to retain the road density standards found in the current Plan and for the FS to actually move toward achieving them. Examine and develop in detail this option/objective/guideline/dfc for managing the Forest. This is a significant and national public issue.

Implementation of this option/objective/guideline/alternative/desired condition will help achieve Forest Service Goals 1, 2, 3, and 5 (see DCER pg. 4).

Other MAs or MPs (aside from MA 14 & 15, or lands formerly allocated to them) need to have road density standards. The revised Plan has

DFCs, Standards, and objectives that accomplish this.

The Forest Service needs to disclose to the public the total amount of all roads on all the Forest polygons and disclose the road density for ALL polygons on the Forest based on the TOTAL amount of road mileage. Disclosure and evaluation of total amounts and density are fundamental for well-reasoned decision-making, for rationally formulating guidelines, desired conditions, objectives, and standards, and for meaningful public participation in the planning process.

For the revision of the Plan, Forest Service planners need to fully and fairly address, evaluate, and disclose road closure opportunities on the George Washington National Forest. The DCER and DLRMP do not manifest this relevant and significant planning concern.

"Over the next 10 years, 5 to 10 miles of roads (classified and unauthorized) are decommissioned." (DLRMP - 55)
This "objective" is significantly deficient. It is not clear how this quantity was derived. This issue is not receiving the priority attention that is appropriate. The FS should decommission 10-20 miles of roads per year over the next ten years in order to make meaningful progress toward achieving goals, restore wildlife habitat, improve watershed conditions, increase recreational opportunities, improve forest health, address fragmentation and other ecological harms, and help stop invasive species. Implementation of this option/objective/guideline/alternative/desired condition will help achieve Forest Service Goals 1, 2, 3, and 5 in a cost-effective manner (see DCER pg. 4).
An appropriate place to implement this opportunity is with roads in MA 14 polygons # 9, 56, 59, and 60, and MA 15 polygons # 11, 54, 62, and 65.

The revised Plan requires a site-specific "road analysis" at all project areas prior to the project level decision, regardless of whether or not classified road construction or reconstruction is proposed. The revised Plan requires a site-specific "road analysis" at all project areas prior to the project level decision, regardless of whether or not the project area is within watersheds where impaired or water quality limited streams exist two miles downstream of the proposal and the source of the problem has been identified as non-point source sediment or other factors which may be influenced by roads, or whether or not threatened, endangered or proposed aquatic organisms are known to reside within two miles of National Forest System lands. The revised Plan requires a site-specific "road analysis" at all project areas prior to the project level decision, regardless of whether or not the project area is within Management Area 14 and 15 polygons where open road density exceeds forest plan standards or in MAs 4, 9, or 21.

The FS fails to address and evaluate the impacts and effects of Forest roads (be they system, closed, temporary) upon invasive plant species (see Goal #3 at CER pg. 4). The construction and maintenance of roads on the Forest does not "reduce impacts from invasive species", instead it exacerbates them. Decommissioning and revegetating (with native species such as Chestnut) various roads on the Forest will positively address Goal #3. This option for achieving desired conditions must be developed and studied in detail.

The impacts of roads and their associated edge effects upon habitat loss, habitat degradation, habitat fragmentation, and forest

fragmentation must be fully considered, disclosed, analysed, and evaluated. The extent and degree to which roads serve to act as barriers, alter the permeability of the landscape, and reduce accessible habitat must be fully considered, disclosed, analysed, and evaluated. See, e.g., Eigenbrod, F. et al. 2008. The degree of the barrier effect of roads and associated habitat loss of course varies with the species and the type of road and the volume of traffic. "However, even minor roads may be a major barrier to movement for some species, such as salamanders (deMaynadier and Hunter 2000), invertebrates (Mader 1984), small mammals (Swihart and Slade 1984), and some snakes (Shine et al. 2004), due to the behavioral response of these species to the road surface." (id.)

Although there are various ways to examine it, at the least a meaningful effort must be made by the FS revision planners to in some way identify, quantify, measure, analyse, map, and disclose the road effect zone on the Forest. Perhaps use 100 meters from both sides of all the roads on the Forest and evaluate the amount and distribution of this pattern. See Forman, R. T. T. 2000, Riitters, K. et al. 2004, and Reed, R. A. et al. 1996. However, analysis of a range of zones should perhaps be performed as a 100-meter effect zone is extremely conservative; see, e.g., 800 meters as regards Black Bears in Rudis & Tansey 1995 and Reynolds-Hogland & Mitchell 2007.

The information regarding road amounts, densities, edge effect zones, and fragmentation are basic baseline data essential for the agency to benchmark and measure its performance, essential for successful implementation of the agency's strategic plan, and essential for accountability to the public. Further, this baseline data (the current management situation) is necessary for setting and validating rational and reasonable and legally defensible objectives, desired conditions, guidelines, goals, standards, prescriptions, and/or allocations for the Forest.

Without this gathering and analysis of baseline data, the FS will not be able to ensure that it is meeting its mandates regarding diversity, natural forest conditions, viability, and public accountability.

What exactly is an "unimproved" road? Nowhere does the FS clarify this important and relevant issue; i.e., how precisely do "unimproved" roads differ from "improved" ones. It is not at all clear what roads are counted toward calculating road densities to identify NF sites to be added to the roadless areas inventory and/or evaluating said areas. It seems that the FS planners consider just about any road to be "improved" regardless of the amount or lack of maintenance it has received (even if not physically passable by standard passenger vehicles).

Which brings up another issue. Motor vehicle technology has changed over time. Now vehicles may be available that are capable of being used in places that were previously impermeable to such motorized assaults. At what point does a "standard passenger vehicle" cease to be a viable/tenable screening tool for what counts as an "improved" road? The FS has not adequately addressed this significant issue.

As regards this issue (and others), the agency's rationale is not sufficiently explained. This shields essential data from public review and fails to provide the public with an adequate opportunity for comment.

Resolution:

The FS must stop building roads of all types (open, closed, permanent, temporary).
The Plan must establish firm guidelines for limiting mileage and density of all types of roads in all Management Areas/Prescriptions and for achieving reductions in a timely manner. Total road mileage, including of so-called "temporary" roads, must be considered, analysed, monitored, and limited. Establish comprehensive guidelines for performing site-specific road analyses at all project areas with roads that will be used to implement the project, regardless of the project area's location or of whether road construction or reconstruction are planned as part of a site-specific project.
During the Plan revision process FS planners must perform a much more detailed and comprehensive analysis of the road system on the GWNF. Identify the minimum feasible road system on the Forest. Provide clear guidelines and objectives for clearly identifying road potential candidates for decommissioning and for integrating this process into all project-level analyses.
A high priority for the new revised Plan must be to reduce the amount of roads on the Forest. The agency must aggressively decommission, close, obliterate, and revegetate roads on the Forest. This should be done especially in all areas allocated to MAs 14 and 15 in the 1993 Plan, and also in all Special Biological Areas (MA 4), Special Management Areas (MA 21), Remote Highlands (MA 9), as well as "special areas", "roadless areas", "potential wilderness areas", all "special biological areas" identified by the VDNH and WVDNR and other specialists, Wood Turtle conservation sites, watersheds providing public drinking water, and "Mountain Treasure" areas identified by the public.

Roads shall be decommissioned, revegetated, recontoured, and obliterated to restore habitat and watershed integrity, enhance esthetic and recreational benefits, and to meet road density requirements for wildlife species that favor remote habitat and freedom from disturbance (e.g., an open road density of no more than one-quarter mile of open road per 1000 acres; see Standard 14-7 at GWNF Plan pg. 3-75).

The GW planners identify the minimum road system needed on the Forest
(see 36 CFR 212.5). The revised Plan establishes clear unequivocal objectives for when road density Guidelines are to be met. The revised Plan establishes clear unequivocal objectives and DFCs for limiting "closed" roads. The revised Plan establishes clear unequivocal objectives and DFCs to limit "temporary" roads. The revised Plan establishes clear unequivocal objectives and DFCs for when roads will be decommissioned. The revised Plan establishes clear unequivocal objectives and DFCs on limiting total road mileage and density throughout the Forest.
An objective for the revised Plan is to achieve conditions where the density of open Forest Service roads is no more than 0.8 miles per square mile across the entire Forest. The objective over the next 15 years should be to reduce the total road mileage (of FS permanent roads) on the Forest to 1984 levels (ca. 1330 miles). This work will provide many jobs to local communities. To accomplish this watershed rehabilitation work, reallocate monies presently spent on administering timber sales.
The Forest Service must fully and fairly analyze the road-facilitated poaching that the revised Plan would allow.

There are opportunities for decommissioning, closing, and revegetating roads in VMTs and PWAs. For example, the Peters Mountain road (FSR #175) in the Snake Run Ridge MT, currently closed to public motorized

use, is a good candidate; also, western portions of road #173 (Benson Run) in the Jerkemtight VMT, the Potts Mountain "road" between Toms Knob MT and Barbours Creek Wilderness Area (there are chronic and expensive problems involved with abuse of this route), portions of "road" #387/trail #488 at the ridge crest of Walker Mountain (the portion at the middle/north end of the Mountain Treasure past the route #488 closure at the Back Draft Trail intersection), and portions of roads #93, 371, and 400 in the Big Schloss MT.

Some suggested candidate road segments to be evaluated for decommissioning, closure, recontouring, revegetating, and conversion to non-motorized trails (road numbers from 1993 GW Plan maps):

In Scaffold Run MT (WSRD) FSR 258A and 258C
In Warm Springs Mountain MT (WSRD) FSR 358
In Short Mountain MT (WSRD) the Lick Run road
In Laurel Fork MT (WSRD) FSR 457 and the Slabcamp road
In Mill Mountain MT (JR and WSRDs) FSRs 362 and 1923
In Beards Mountain RA (JR and WSRDs) FSR 361, 361C, 361E
In Jerrys Run MT (JRRD) FSR 698
In Snake Run Ridge MT (JRRD) FSR 277 (the portion past the juncture with 277A; this crosses two wild Trout streams, Crow and Little Crow Runs) and FSR 175 (Jingling Rock).
On the JRRD the Potts Mountain "road" between Toms Knob MT and Barbours Creek Wilderness Area (there are chronic and expensive problems involved with abuse of this route).
In Longdale MT (JRRD) road 271E
In Fore Mountain MT (JRRD) FSR 448 and 448A
In Kelley Mountain MT (PRD) FSR 162B (Kennedy Ridge)
In Three Sisters MT (PRD) FSR 510 (stem off of Poplar Cove towards Bennetts Run)
In St. Marys WA addition A (PDR) road # 42-A
In Dry River MT (NRRD) Miller Run road (WV 68)
On the NRRD FSR 225 and/or 225B that separates Gum Run and Oak Knob RAs (Maple Spring)
In Oak Knob potential WA (NRRD) road 62 above Hone Quarry impoundment
In Dunkle Knob MT (NRRD) the Dice Run and Stony Run roads
On the NRRD FSR 72C that separates the Feedstone Mountain and Wildcat Ridge MTs
In the Beech Lick Knob MT (NRRD) FSR 235 and the Root Run "road"
In Wildcat Ridge MT (NRRD) "road" 597 at Rader Mountain.
In Walker Mountain MT (NRRD) route #387 at the ridge crest of Walker Mountain (the portion at the north end of the Mountain Treasure past the road closure at the Back Draft Trail intersection; this is actually a trail, not a road passable by passenger vehicles)
In Benson Run – Jerkemtight MT (NRRD) FSR 396A (in the northern section of the MT)
In Elliot Knob MT (NRRD) the Montgomery Run and Liptrap Run roads # 1760 and #1625A (above Hotshots)
In Hankey Mountain MT (NRRD) FSR 425 and 425A
In Ramseys Draft (Bald Ridge/Lynn Hollow) MT (NRRD) the Rattlesnake Run roads # 455 and 455A and the road northeast of Braley Pond #254
On the NRRD FSR 95 from Camp Todd to FSR 85 (an expensive to maintain section that separates the Ramseys Draft and Little River RAs totaling around 55,000 acres)
In the Jerkemtight – Benson Run MT (NRRD) FSR 173 west of the Shenandoah Mountain crest and FSR 399 to Wallace Peak.
In Short Horse Mountain MT (LRD) the Browns Run road
On the Lee RD FSRs 93, 371, and 400 - the Paddy/Cove Runs road in VA (the portion south of the borrow pit in Frederick County about a mile

in from Rt. 55 or from south of where access to private inholding is provided) that serves to separate Great North Mountain MT from Big Schloss MT and Jonnies Knob MT.
In Big Schloss MT (LRD) the Cove Run road # 371in WV
In Big Schloss MT (LRD) FSR 1863 at Cedar Run and "road" # 1719 in the center of the MT northwest of FSR 88.

Scenic and recreational areas
In addition to those mentioned at pg. 35 of the DLRMP, "Scenic Corridors" should include Old Parkersburg Turnpike (rt. 688), Marble Valley - Big River Road (rt. 600 in NRRD), Wolf Gap Road (rt. 675), Passage Creek Road (rt. 678), Rt. 340, Shenandoah – Warm Springs Mountains roads (WV rt. 3 – WV rt. 21 – VA rt. 614), Allegheny Mountain road (rt. 600 in WS/JR RDs), Hematite Road (rt. 159), Boiling Spring road (rt. 18), Vesuvius Road (rt. 608), Sherando road (rt. 664) (route numbers from 1993 GWNF Plan map). These are all roads that receive high amounts of regular use for which the GWNF supplies critical aesthetically pleasing scenery.
A criterion for designation of corridors in the revised Plan is to include the visual middleground, not just the foreground.

"Dispersed Recreation Areas" such as North River and Hidden Valley are important Special Areas that must NOT be "suitable for timber harvest/production". Timber harvest or production harms dispersed recreational values and opportunities. North River is also a significant drinking watershed (for Staunton).

"Expansion of existing openings and/or creation of new openings may occur within and outside semi-primitive core areas." (DLRMP – 75)
This guideline is unreasonable and needs to be dropped. We go to semi-primitive core areas to get away from evidence of human disturbances, including those wrought by the FS. No more new openings fabricated in semi-primitive core areas. And the integrity of semi-primitive core areas should be restored by reforesting artificial openings and their access roads (perhaps with Chestnuts) and allowing them to recover to natural forest.

There is the possibility for "Primitive recreation" capability on Shenandoah Mountain. This is one of the extremely few areas in an eastern National Forest where such is possible (at least 3 miles from an open road). The GW planners fully and fairly analyse this issue/opportunity (i.e., the provision of such an opportunity) in the EIS for the Plan revision.

At present, 636,000 acres of GWNF only have a "low" to "moderate aesthetic objective". The appearance of the Forest is a significant national and regional issue and very important to the public (see survey results). Having 60% of the Forest with only a low/moderate scenic quality objective is insufficient and unreasonable.
In the revised Plan, at least 3/4 of the GWNF has SIOs of Very High or High. The FS needs to investigate and evaluate in detail this option/dfc. How are "concern level" and scenic attractiveness" determined? A public process? If the DCER is an indication, the FS has thus far refused to fully and fairly address "ugliness", "artificiality", loss of "contrast" value (making the Forest more like everywhere else), and harm to visitors.

The "1993 Plan adopted two short-term VQOs, rehabilitation and enhancement, to be used as needed . . ." - 89

These so-called “short-term” objectives can be applied at the discretion of FS bureaucrats (e.g., for salvage logging), even when they conflict with DFCs; as if visual impacts of logging do not last decades (long-term). The use of “rehabilitation” does not adequately address long-term impacts or harm to the public and to the scenery. The revised Plan should cease use of “rehabilitation” and “enhancement”; fully evaluate this option.

Shenandoah Mountain
Problem:
Shenandoah Mountain is managed under a hodgepodge of differing management area prescriptions with conflicting emphases that do not adequately conserve the special values and conditions found here. The Forest Service does not recognize the significance of the Mountain. Management decisions and actions damage the Mountain’s significant ecological, social, recreational, economic, and spiritual values. We do not want this majestic mountain to change and become more and more like everywhere else. But that undesirable trajectory is a constant threat under present management regimes.

Shenandoah Mountain is perhaps the most important single “special area” on the Forest; it is certainly the largest. Stretching 60 miles in length and 15 miles in width, Shenandoah Mountain occupies almost 400,000 acres of public lands on the North River Ranger District in Augusta, Bath, Highland, Rockbridge, and Rockingham Counties, Virginia and Pendleton County, West Virginia.
The crown jewel of the Central Appalachians, Shenandoah Mountain constitutes perhaps the largest single contiguous tract of National Forest in the eastern United States. As such it is of national significance as one of the largest relatively intact wildlands of any kind in the entire East.

Here are Wild Trout streams and quality Black Bear habitat, as well as endemic species such as the Cow Knob Salamander and Shenandoah Mountain Millipede. Here too are tracts of old growth forest and rare habitats such as shale barrens. In addition to these ecological benefits, the complex of roadless lands that exists on Shenandoah Mountain is an unparalleled backcountry recreational resource in the region. Dazzling beauty abounds.
Shenandoah Mountain possesses probably the greatest amount of roadless areas and back-country recreational lands to be found in any single area between the Great Smoky Mountains National Park and the Adirondacks. Here are four clusters of Mountain Treasures with twenty-four individual Treasures totaling around 260,000 acres. Included in these Treasures are 112,000 acres in nine roadless areas previously “inventoried” by the Forest Service. Here too is the glorious Ramseys Draft Wilderness Area, as well as eight Forest Plan designated Special Interest Areas – Biological and the Laurel Run Research Natural Area.

Shenandoah Mountain contains the greatest concentration of old growth on the George Washington National Forest and in the Central Appalachians, with perhaps around 75,000 acres in this condition (see maps at pp. 210-11 of Southern Appalachian Assessment Terrestrial Technical Report and USDA FS "Stands 150 Years And Older CISC" map and CISC “old growth trend” at App. G-58 of 2004 GW-JNFs Monitoring Report).

On Shenandoah Mountain are headwaters of the James and Potomac Rivers, and of the legendary and beloved Shenandoah River. Segments of

the North River and Cowpasture River qualify for inclusion into the National Wild and Scenic River System. Watersheds and impoundments on the Mountain supply the drinking water for tens of thousands of people in Staunton, Harrisonburg, and elsewhere.

Over 200 miles of hiking trails traverse the area. The 20-mile North Mountain Trail, the 25-mile Wild Oak Trail, a component of the National Trails System, and the 40 miles long Shenandoah Mountain Trail provide outstanding recreational opportunities.

Resolution:
Shenandoah Mountain is a natural cathedral of ever-growing importance for the rejuvenation and inspiration of the human spirit. The entirety of Shenandoah Mountain must be allocated to management prescriptions that fully and consistently preserve and restore the special values and conditions found here. In recognition of its critical significance and to effectuate conservation goals it should be considered and studied for designation as a National Conservation Area. The entire area is not suitable for timber harvest, road building, grazing, or mineral/gas/wind development. The desired future condition for the SM Conservation Area will be an all-aged forest mimicking conditions of pre-European settlement. The Conservation Area will be forever wild with minimal development; of course, present developed recreational sites such as Todd Lake and Brandywine will be retained. Land uses here will be compatible with the maintenance of the species most sensitive to human-caused disturbance. Low-impact dispersed recreation will be the emphasis. The North River riparian area will be rehabilitated. NCA designation will increase the potential for remote backcountry non-motorized recreational experiences in a region close to our largest population centers, a region in which the demands made upon wildlands are ever growing. All of these management emphases will result in direct economic benefit to local communities.

Shifting/Arbitrary Scope of Analysis
Conditions off the Forest are considered or not by FS planners, simply due to whatever is expedient for deciding to go ahead with ground-disturbing projects/actions (see DCER/DAMS and DLMP).
When it comes to old-growth forest the fact that 99% is gone elsewhere off the Forest does not matter; since a greater proportion exists on the Forest there is an “adequate” amount on the Forest to make it okay to cut. When it comes to “locally rare” species the fact that they may not be rare elsewhere off the Forest does matter; so their rare or vulnerable populations on the Forest do not need to be strictly protected. When it comes to early successional habitat the fact that there is a plethora of this off the Forest does not matter; more must be fabricated on the Forest. When it comes to the Indiana Bat the conditions elsewhere off-site do matter; virtually the entire Forest is used as an analysis area to gauge project-level impacts. When it comes to Wilderness Areas, that are in extremely short supply on the Forest, the conditions elsewhere off the Forest do matter; the public is told that since Wilderness is “available” elsewhere on the Monongahela and Jefferson NFs and Shenandoah NP, then substantially more is not needed or desirable here. When it comes to Wilderness Areas, that are in extremely short supply off the Forest (e.g., less than 1% of Virginia), the conditions elsewhere off the Forest do not matter; the designation of substantially more Wilderness would get in the way of the agency’s zeal for logging and roads (even to the point of making 500,000 acres “suitable” for cutting). When it comes to “primitive recreation” the fact that it is not available off the

Forest does not matter; providing it on the Forest would be too much trouble for the FS or get in the way of logging and road priorities. When it comes to pastures and grazing, which are extremely common off the Forest, the conditions off-Forest do not matter; the FS must continue to provide conditions here that are common elsewhere. When it comes to sedimentation conditions off the Forest do matter; entire watersheds, including large land areas that are not part of the GWNF, are used as analysis areas so as to misleadingly dilute the ostensible impacts by making the amounts of sediment seem but a small proportion.

The FS must either stop this nonsense in the Plan analysis or come clean to the public about this shell game of rolling baselines and shifting analysis areas.

Soils

Is part of the reason numerous sites on the Forest have low site indices (e.g., 40-60) due to the fact that have been intensively logged in the past? How and to what extent will continuing to log these low site index sites make their productivity even poorer? What are the effects and situation associated with poor soil quality, low buffering capacity, and/or high leaching rates? How much N-loading is occurring on the Forest and what is projected? What are the impacts from past, current, and future N deposition? What data, monitoring, information, and research is the Forest Service using to address these concerns/issues?

Individually, acidic deposition or poor nutrient availability might not be enough in and of themselves to affect long-term sustainability, but what about the synergism and/or amplification of numerous factors that may increase susceptibility to other stresses? And different communities/species differ in their susceptibility or vulnerability, as do mature or old growth systems differ from younger seral stages. The FS has thus far not properly and adequately addressed and evaluated the issue of long-term and cumulative impacts to soils and trees and other vegetation, particularly in conjunction with the massive logging assault of 80-130 years ago (see DCER and DLRMP).

I am concerned about the sustained yield of populations, habitat, and site productivity under the potential cumulative impacts that could accrue were the DLMP or similar alternatives to be implemented. The DCER and DLMP do not reflect the full and fair consideration of this issue. The issues, concerns, and factors (e.g., high N-loading, old growth, soils with poor acid neutralizing capacity, low nutrient sites, and ozone) discussed in the McLaughlin and Wimmer (1999) paper are relevant here.

"Over longer-term cycles, repeated harvesting can also be evaluated as a soil-acidifying process associated with the net removal of cation bases from the soil (Ulrich & Matzner, 1986). . . . Knowledge of the relative importance of weathering, leaching and uptake rates by vegetation coupled with estimates of the pools in foliage and forest floor can provide forest managers important insights into long-term sustainability of nutrient cycles with available harvesting options. . . . It appears that in both the USA and Europe longer-term supplies of soil Ca can be expected to be chronically reduced for many forest systems if high N-loading continues. . . . The association of Ca deficiency with accelerated plant senescence, derived principally from experience with crop plants and horticulture (Pooviah, 1988), appears to have particular relevance to potential Ca limitations on the size and age of mature forest trees, and the structural integrity of

old-growth forests.
"How might this occur? As trees increase in age and stature, the challenges of providing carbohydrates to support increasingly large maintenance respiration rates of support structures lead to an increasingly narrow margin of physiological flexibility to meet the demands of growth, reproduction and defense (McLaughlin & Shriner, 1980; Waring, 1987). The logistics of supply of nutrients and water to aboveground structures becomes increasingly difficult with larger, older trees as root systems are weakened by the increasing carbohydrate demands of maintenance and defense and transport systems are extended. . . .

"For example, decreases in Ca supply by natural soil or climatic limitations can be further amplified by increased N deposition, which typically shifts carbohydrate allocation to shoots at the expense of roots (Persson & Majdi, 1995). Under these conditions, potential reductions in transport of water and Ca would probably act to amplify the influence of Ca deficiency, whatever the primary cause. Loss of membrane integrity in roots or foliage, and increased rates of respiration resulting from Ca deficiency would be expected to amplify the effects of carbohydrate shortages associated with aging stress in larger, older trees, or competitive stress of younger trees growing under conditions of intensive demand on site-supply capacity. The expected consequence in either case is increased sensitivity of trees to a variety of stresses. Likely mechanisms for such responses include altered structural integrity of woody tissues above and below ground, and increased susceptibility of these tissues to structural damage from wind and ice as well as reduced capacity to repair damage and defend against disease." (McLaughlin, S.B and R. Wimmer 1999)

Elevated aluminum levels are of concern.

Special Conditions
Problem:
The current GWNF Plan does not sufficiently protect the Forest's diversity as it allows special forest conditions to be harmed. These sensitive sites include springs, seeps, rocky outcrops and slopes, scree, talus, steep slopes, places with poor growing conditions (low "site indexes"), and unusual or rare forest types. They need special consideration. Aside from discrete special areas, there are numerous conditions within the general forest area of the GWNF that need to be given special consideration. Unfortunately, the current Plan allows these sites to be harmed during management activities such as logging.

Springs and seeps are a component of landscape diversity and are very important for maintaining the population viability and distribution of salamanders, frogs, toads, crayfish, turtles, Ruffed Grouse, Turkeys, and other species (see JNF Hagan Hall TS EA-43, 44, 46). Current "mitigation" measures do not properly or sufficiently protect the
Nor do current "mitigation" measures properly or sufficiently protect the rock outcrops and rocky slopes in project areas. These are salient features within or immediately adjacent to numerous cutting sites. On the GWNF, the FS routinely schedules cutting of such sites during timber sales; see, e.g., unit 6 at the Slate, unit 5 at the Sandy, unit 8 at the Hematite, and unit 3 of the Open Trail timber sales. They are called "key wildlife areas" (GWNF Maybe TS EA-5). Just as do riparian areas, these sites provide special habitat conditions unlike the general forest area (e.g., microclimates, niches). They are themselves important components of biodiversity and also are important habitats and refugia for various biota, including reptiles,

amphibians, invertebrates, and lichens (see, e.g., Balcom, B.J. and R.H. Yahner 1996).

In the JNF EIS the FS avoided responsibility: "Distribution of such sites [Rock outcrops and Cliffs] . . . stable over time . . . due to the stability of the factors that define them. Outcomes are the same across all alternatives, except alt. F . . ." (3-157) This stability presumably refers to the geology of the underlying rocks, but this does not apply to the forests and habitat conditions that occur at such places. Cutting of these sites will drastically alter the habitat conditions there. So there is a difference in effects of alternatives that varies with logging amounts and/or the Plan Standards that are adopted. This must be fully considered, analysed, and disclosed in the GWNF Plan revision.

The current GWNF Plan allows most logging to occur "regardless of site index and slope" (see LRMP A-5). Steep slopes are inherently prone to problems regarding erosion and tree stability. Extremely steep slopes are intensively logged on a regular basis on the Forest. For example, slopes approaching 100% were logged as part of the Sugar Tree (North River RD), Hoover Creek (James River RD), and Shady Mountain (Pedlar RD) timber sales on the GWNF.

Many soils on the GWNF are thin, rocky, and of low fertility. Such poor growing conditions limit the ability of vegetation communities to recover from disturbance. Forests growing on such low productivity sites are said to have a low "site index". Logging routinely occurs at such places on the GWNF; e.g., at the 2008 Laurel Road timber sale on the Lee RD, ten of the proposed cutting areas in their entirety were said to have a site index of only 50.

A basic diversity concern involves the "forest type" of sites. Numerous types are not well represented on the Forest; and the mature or old growth acreage of these types is even scarcer. For example, there are only 2239 acres (0.2% of the Forest) of "white pine-hemlock", "Forest Type 4", on the entire GWNF (FEIS H-3). Because of their rarity and significance to maintaining the Forest's diversity, such forest types should not be logged. Yet this is what happened at the NRRD Dice Run timber sale and other sales on the Forest.

Regarding springs and seeps: "Elimination of terrestrial vegetation around aquatic breeding sites causes amphibian populations to decline [citations omitted]. Thus, maintenance of amphibian biodiversity depends on the protection and management of both aquatic breeding sites and the surrounding terrestrial habitat." (Mitchell, J.C. et al. 1997) "Because of the vulnerability of plethodontid salamanders to edge effects, effective management of southern Appalachian streamside habitats may require the addition of a terrestrial buffer to protect terrestrial core habitat that immediately adjoins streams and seeps." (Petranka, J.W. and C.K. Smith 2005)

Emergent rocks are important for "microsite moisture retention, refugia, and feeding substrate for woodland salamanders" and may serve as "primary long-term refugia and colonization sources" following logging (Ford, W.M. et al. 2002). In addition, seeps and 1st order streams serve to connect patchy salamander habitat (id.). Therefore, "determining these habitat patch size relationships and effect thresholds could be critical for long-term management and conservation." (id.) Also see Grover, M.C. 2000.

Resolution:

All these special and vulnerable places are strictly protected under the new revised GWNF Plan. The Plan will have explicit standards, guidelines, objectives and DFCs to accomplish this. These specialized habitats are not considered "suitable" for logging, timber

production/harvest, road construction, drilling, mining, or other harmful disturbance. Not only will the particular physical sites be fully protected from harm, but protective buffer zones around them will also be recognized and implemented. The protective no-disturbance buffer around springs, seeps, rock outcrops, and rocky slopes is at least a tree-height in extent so as to protect their integrity (e.g., protect them from increased temperatures). A VDGIF biologist recommended that springs and seeps be protected "by a minimum of 100 feet on each side (preferably 200-300 feet)" (GWNF JRRD Johnson Mountain timber sale project file). Steep slopes (40% or over) will not be suitable for logging or other intense ground disturbance. Places with site indexes below 70 will not be suitable for logging or other intense ground disturbance. Because of their significance to maintaining NFMA mandated Forest diversity, rare forest types are not suitable for logging or other intense ground disturbance.

"Timber Management" and "Suitability"
Problem:
Commercial logging in National Forests is extremely controversial and is opposed by up to 70% of the American public (US-Forest Service 1986; Market Strategies, Inc. and Lake, Snell, Sosin, Perry, and Associates 1998; public involvement surveys of residents around the GW-J NFs done in 2002 as part of the NF Planning process by the Forest Service's Southern Research Station (project leader Ken Cordell); The National Survey on Recreation and the Environment (NSRE) 2001; A Mandate to Protect America's Wilderness: A Comprehensive Review of Recent Public Opinion Research, Campaign for America's Wilderness, January 2003, accessible at http://leaveitwild.org/reports/polling_report_exec_summary.html.). Unfortunately, most Americans are not even aware that their National Forests are not protected from commercial logging (Mellman Group 1999).
The National Forest Management Act was adopted to require the conservation of soils, watersheds, recreation, and wildlife and place limits on the use of even-aged and other "regeneration" cutting. Tragically, the FS has so twisted and distorted the law that the agency now considers such cutting to be virtually required for "forest health" and "multiple-use". At present sufficient studies and information gathering are not accomplished before or after sales are implemented. The Forest Service's unnecessary timber program loses taxpayers money and devastates our lands. The National Forest Protection and Restoration Act, which would have prohibited commercial logging in our National Forests, had over 100 cosponsors in a recent session of Congress.

There are approximately 16 million acres of timberland in Virginia and 12 million in West Virginia; so the amount of land in the GWNF currently considered to be "suitable" (currently 350,000 acres) represents a little more than 1% of the timberland in the two states. No community is dependant upon the cut coming off the GWNF.
The amount of cut coming off the GWNF makes up less than 1% of the
timber cut in the state of Virginia. If this supply ceased it can certainly be compensated for from private lands. To say nothing of recycling, reusing, reducing, and greater efficiency. Timber supply conditions in the market area do not appear to support the need for an increased timber supply role for the Forest over the next 10-15 years. In fact, the Forest's role could be significantly decreased during this period.

Should the government be in the business of selling trees? Taxpayers heavily subsidize the National Forest timber sale program. That is, the logging is a money loser. The receipts do not cover the expenditures. And it operates in competition with private landholders. Nationwide, it has been estimated that the National Forest timber program loses over a BILLION dollars a year, and this estimate is conservative (Hanson, C. 2000). In other words, the profits are privatized (by the timber industry) and the costs are socialized (by US taxpayers).

The timber sale program is "below-cost" on the George Washington-Jefferson National Forests. The Forest Service's accounting is so shoddy, misleading, and nebulous that it is difficult to say just how much the agency is losing; different auditors reach different conclusions (see "Lost in the Forest" at < HYPERLINK "http://www.taxpayer.net/forest/LostintheForest" www.taxpayer.net/forest/LostintheForest>). In June of 2001, a report released by Taxpayers for Common Sense, which applied techniques established by the GAO to determine the timber sales' actual effect on the U.S. Treasury, estimated that in fiscal year 1998, the Forest Service lost over $2.2 million logging 2,742 acres of the George Washington-Jefferson National Forests (see "In the Red" at < HYPERLINK "http://www.taxpayer.net/forest/learnmore" www.taxpayer.net/forest/learnmore>, see also HYPERLINK http://www.taxpayer.net/forest/fromtheashes/html/timberprogramlosses.htm#va http://www.taxpayer.net/forest/fromtheashes/html/timberprogramlosses.htm#va).

There is no reason to believe such losses are not continuing today. Most of the trees (around 65%) that American citizens are paying the Forest Service to cut down and remove from the Forest are considered to be low-value pulp and pole wood (see GWNF EAs). Roads are of course almost always associated with timber sales. Many are built into "remote" habitat. In just the years from 1976 to 2000, a total of approximately 105,000 acres were cut on Virginia's two National Forests. This is more than is protected as Wilderness.

In the draft EIS and final EIS for the revised Plan the FS planners clearly disclose the full monetary costs and receipts for the current and projected timber sale programs on the GWNF.

"A Timber Sale Program of 2.6 to 4.2 million cubic feet (MMCF) [13 to 21 million board feet (MMBF)] is provided annually from lands generally suitable for timber production. This equates to about 1,000 to 1,800 acres per year.

"A Timber Sale Program of 0 to 0.5 million cubic feet (MMCF) [0 to 0.25 million board feet (MMBF)] is provided annually from lands generally suitable for timber harvests to achieve other multiple use objectives. This equates to 0 to 25 acres per year." (DLRMP - 54)

The Forest Service is now even proposing to increase the lands available as "suitable" for logging to 500,000 acres.

After all the decades of controversy regarding logging on the National Forests, this proposal shows the GW planners to be clearly and dangerously out of touch with the public (the public that is who are not special interests such as logging companies or pulp mills). In fact, this action manifests such a clear disregarding of or arrogant disdain for the general public and science and reason, or such miserable incompetence, that it amounts to an abuse of the public trust. It's 2010 and this is what the GW planners come up with? This is so monstrously bad that I intend to contact Senators, Representatives, and the Inspector General to get an answer as to who is actually running this charade coming out of the Roanoke office. Those responsible for this expression of contempt should be ashamed.

But I know you are not. Those responsible for this expression of contempt should be fired from your jobs. But I know you won't be.
A similar thing happened once before, during the development of the current Plan. Then, the Forest Service upped the "suitable" lands by 30% between the draft Plan (preferred alternative) and Final Plan. And now the FS planners are proposing to make an amount of area "suitable" for logging on the GWNF that is almost DOUBLE of what they had first proposed almost 20 years ago.
Further compounding the harm, the FS is also now proposing to lump Management Areas (e.g., 14, 15, 16) together. This would allow/expand the distribution of more perforations and edge effects across the Forest (from such actions as "wildlife management", logging, and roads), further significantly reduce or degrade dispersed and non-motorized recreation opportunities and high quality scenery, as well as open more remote, old age, and interior forest to development and allow for sedimentation of/impacts to more headwater streams.
The impacts of increases in "suitable" lands and the lumping of management areas allowing "timber management" must be fully and fairly examined and disclosed in the EIS.

Evaluate the use of a 500-year rotation on "lands generally suitable for timber production". This time-frame is based on old-growth characteristics of living trees that inhabit these ecosystems, the succession and stabilization times of herbal communities, as well as the time that fallen boles exist as they recompose into soil and other forest attributes. This is a viable option/alternative that needs to be examined in detail.

Low site index lands (below 70) must NOT be suitable for timber production.
No cutting of steep slopes.
Special habitat conditions must NOT be suitable for timber production.
Examine and develop in detail this option/objective/guideline/dfc for managing the Forest.

The FS needs to identify and map the soils and sites on the GWNF that are at risk of nutrient depletion due to cumulative impacts associated with acidic degradation. These sites must not be "suitable" for logging. See Monongahela NF FEIS.
What areas on the GWNF where there is the potential exceedance of critical acid loading? What areas on the GWNF where there is the current actual exceedance of critical acid loading? These potential and existing sites must not be "suitable" for logging. The FS needs to map and disclose these areas. See McNulty, S.G. et al. 2007.

The FS has proposed modifying the Plan to allow salvage logging in SBAs (see DCER and draft Plan). This is entirely unreasonable and unnecessary. What is the necessity for doing so?
What part of "natural processes" (see MA 4 description) doesn't the FS understand? Places cease to be "special" or "natural" when opened up to the agency's routine exploitations and manipulations.
The FS also proposes to allow salvage in Scenic Corridors or Viewsheds (MA 7) and open up "Remote Backcountry Area" (MA 9) to more salvage.
Salvage logging is not consistent with the DFCs for any of these areas.
The reasons for having opening-size limits must apply just as well to "salvage" logging as to non-salvage logging. The FS has acted as if because it is "salvage" logging then the harms and undesirable effects of logging large tracts do not exist. But they do. Proposed Guideline

251 is unreasonable and needs to be removed or amended. Size limits for areas of "salvage" logging should be no larger than those for other intensive logging.

"FW-114: The maximum size of an opening created by one even-aged or two-aged regeneration cutting is 40 acres in Virginia and 25 acres in West Virginia."

The harms and undesirable effects from large regeneration cuts occur in Virginia just as much as they do in West Virginia. The maximum size of an opening created by one even-aged or two-aged regeneration cutting should be no more than 25 acres in Virginia.

The revised Plan establishes that cutting in lands that were allocated to MA 14 is significantly reduced/halted over the next planning period in order to compensate for the overcutting that previously occurred (no more than approximately 150 acres can be cut in the next 14 years).

Guidelines/standards in the revised Plan require the gathering of site-specific population numbers of focal species and MIS so as to validate project-level habitat manipulations (timber management and fires) purportedly "needed" for their benefit.

Resolution:
In the revised Forest Plan the GWNF managers stop using tax-payers' money to subsidize the profits of the timber industry and deflate the value of private woodland owners assets. The U.S. Forest Service ends its commercial logging program in the George Washington National Forest. There is a need to halt and reverse the on-going degradation caused by decades of commercial logging.
A gradual phase-out is immediately initiated with the objective of preparing no more than one timber sale (of no more than 125 cutting acres) per Ranger District per year by four years from the date of adoption of the revised Plan. This will allow precious resources to be spent on examining and restoring the effects of logging on the Forest's ecology. Much more thorough studies and information gathering will be accomplished before and/or after sales are implemented.
By removing the commercial incentive for logging, the Forest Service would be required to limit cutting activities only to those that are scientifically proven to be absolutely necessary for the viability of threatened and endangered species or public safety. The millions of tax-dollars spent every year on administering the money-losing timber program are instead spent on research, enforcement, custodial management, and remediation of the legacy of ecological degradation existing on the Forest.
It is well within the Forest Service's legal rights to prohibit commercial timber production in the George Washington National Forest as they have done on the Caribbean National Forest. (US Forest Service 1997b) The GWNF may then serve as a prototype to be studied for application elsewhere in the US.

Water Quality
Impaired Streams
The 38 impaired streams need special attention from the Forest Service. Neither The DCER nor the DLRMP specifically address these streams. The revised Plan must have objectives, guidelines, desired conditions, and standards that explicitly address the protection and restoration of all these degraded sites.

New Management Areas/Prescriptions (as well as new goals, objectives,
guidelines, standards, and desired conditions) for drinking watersheds and impaired waters are implemented in order to accomplish strict preservation and restoration.

Drinking Watersheds

Of the roughly 956,990 acres of GWNF within Virginia, approximately 68,086 acres comprise the watersheds of the five reservoirs that are sources of drinking water for communities and residents.
Approximately 357,788 acres comprise the watersheds for drinking water intakes for communities and residents. The combined 425,874 acres within public drinking watersheds represents roughly 44.5% of all the GWNF land in Virginia. There are additional public drinking watersheds in West Virginia that must be identified and protected/restored.
As a first step toward improved management, the revised Plan must formally identify all the drinking watersheds lying within the GWNF. The reservoir watersheds have been identified, but the river intake watersheds have not. Obviously, these areas cannot be managed directly and appropriately until they have been identified and delineated.
The Forest lands comprising all the drinking-watersheds lying within the GWNF must be classified as unsuitable for timber production, unsuitable for timber harvest, unsuitable for road construction/reconstruction, unsuitable for wind development, and unsuitable for mineral/gas surface occupancy in the revised Plan. In the revised Plan these waterways are accorded greatly expanded "streamside management zones".
The Forest's drinking-watersheds are priority areas for restoration (along with Mountain Treasures and SBAs): where non-critical roads (of maintenance level 1 or 2) are identified and targeted for decommissioning, closure, recontouring, and revegetating. The DCER/DLMP do not address this. And the current Forest-level "Roads Analysis" is insufficient for informing or dealing with this issue. The revised Plan must have guidelines, objectives, desired conditions, goals, and standards for explicitly addressing this significant issue. Roads have multiple negative ecological impacts that need to be fully and fairly considered; see, e.g., Gucinski, H. et al. 2001. As regards the benefits, economic and otherwise, of road closures also see the study Reinvestment in Jobs, Communities, and Forests by The Center for Environmental Economic Development found at HYPERLINK "http://www.wildlandscpr.org" www.wildlandscpr.org.

At present there is very little difference in "suitability" between the combined drinking watersheds and the remainder of the GWNF. The amount of land suitable for timber production (as defined in the Forest Plan) in the two areas is remarkably similar, 34.4% versus 34.8% of their respective total areas.
So actually a significantly greater proportion cutting is allowed or planned for in our drinking watersheds than in the general Forest outside these sensitive areas (because the derivation of the above number [34.4%] includes reservoir watersheds with considerably less suitable acreage- 25.5%).
The fact that there are more impaired waters in the drinking watersheds than other areas of the forest (per land area) highlights the lack of management for drinking water resources to date on the GWNF.
The 1993 Forest Plan does very little to address drinking water resources. During the process of creating the current Forest Plan, fourteen alternative plans were developed. Eight of the alternatives

included Management Area 3, “Sensitive Watersheds/Municipal Watersheds” (page 2-23 of Final EIS). The Forest Plan that was ultimately adopted (Alternative 8A) does not include this Management Area 3. Management Area 18, “Riparian Areas with Ecological Widths”, is the only management area dealing specifically with water issues. Forest-wide (including West Virginia), approximately 21,000 acres are within Management Area 18.

As the Forest Plan states, Management Area Prescription 18C “contains those riparian areas in the Forest that are adjacent to or within a distance of one mile upstream of the following municipal water supplies (Lynchburg Reservoir, Coles Run Reservoir, Mills Run Reservoir, Clifton Forge Reservoir, Skidmore Reservoir, Staunton Reservoir, and Elkhorn Lake). The lands within this management area are classified unsuitable for timber production.”

But the FS implemented significant amounts of logging in this “unsuitable” riparian area - see the 2003 North River timber sale project above the Staunton Reservoir on the (then) Dry River RD (this logging was NOT confined to pine plantations).

Incorporated by reference is the 2008 report prepared by Wild Virginia, “Drinking Water Resources in the George Washington National Forest”, available at HYPERLINK "http://www.wildvirginia.org" www.wildvirginia.org.

Reference Watersheds

It is not clear that all of the Forest’s ecological subsections are represented by the potential listed “reference watersheds”; they should be.

North River RD is almost 3 times the size of the Pedlar RD; there should be more reference watersheds in this RD (NR) to represent conditions. The FS lists only one reference watershed in NRRD (viz., Ramseys Draft).

The FS fails to designate reference watersheds on Great North Mountain area of the Lee RD, nor any in West Virginia. This must be rectified. There must be more reference watersheds than the 5 listed - N. Fork Simpson Creek (JRRD in Rich Hole WA), Little Cove Creek (Pedlar in Mt. Pleasant NSA), Morgan Run (Lee RD in S. Massanutten), Ramseys Draft (NRRD), Lost Run (WSRD in Laurel Fork). Perhaps Sine Run in Hardy Co., WV and/or Paddy/Cove Run in Frederick/Shenandoah Cos. are suitable as RWs.

It may be better for some reference watersheds that they be allocated as separate management areas/prescriptions (i.e., reference watersheds have their own MA/MP).

North River (Augusta Co.)

The North River corridor and riparian area (in the vicinity of FDR 95) must be cleaned up, restored, and protected. Camping and vehicles should not be allowed here. It is disgusting and reprehensible that mass defecation should be allowed, and even encouraged, in Staunton’s water supply.

“In Municipal Water Supply Areas, when camping and/or vehicles are causing unfavorable effects on water quality, seasonal or permanent closure orders may be considered for within the Streamside Management Zone.” (DLRMP – 58)

Sediment

Problem:

The biotic populations of some perennial streams, and intermittent and ephemeral tributaries, even if a "fishery" may be absent, may be close to or beyond threshold levels of tolerance for sediment. No standard for sediment has been set by the states (VA & WV) so the burden is on

the Forest Service. Various Forest Service management activities result in adding tons of sediment to Forest waters. These sediment loadings are long-term and chronic. Thousands of miles of roads are constantly contributing sediment. Timber sales typically add their loads to small first-order streams that are most vulnerable. The agency often does not know the status and trends of aquatic populations in these affected streams. In addition, the FS improperly analyses impacts, using a greater watershed for the scope of analysis and not adequately evaluating impacts to site-specific areas.

High sediment loads impair stream populations and productivity (Henley, W.F. et al. 2000). For instance, fine sediment considerably impairs Trout hatching success and recruitment to populations. "Timber harvesting can directly affect sediment transport in streams if it increases (or decreases) the supply of sediment, if it alters the peak flow or the frequency of high flows, or if it changes the structure of the channel by removing the supply of large woody debris that forms the sediment storage sites. Bank erosion and lateral channel migration also contribute sediments if productive vegetation and living root systems are removed." (JNF FEIS 3-158) Logging often occurs at sites with steep slopes and soils with erosion concerns. Roads too greatly affect sediment loading and the timing and volume of stream discharges. In fact, roads are the chief source of human-caused sediment delivered to many of the Forest's streams. The sediment that chronically empties into stream channels from roads is ongoing and does not stop.
"The effects of sediment delivered to a stream channel diminish as watershed size increases. Most vulnerable are small sensitive headwaters catchments where concentrated timber harvest activity can have profound results. . . . After four years, sediment rates are normally back to predisturbance levels. However, once sediment is deposited in a stream channel, its effects can persist for decades or even centuries (Frissell, 1996)." (JNF New Castle RD Enterprise TS EA-42) So a project such as a timber sale can potentially result in significant impacts to channel condition and population viability or distribution. And 10-15 years (or less) after adding sediment to a stream channel at a project area, the FS typically returns to that project area and implements another project that adds still more sediment to the stream (cumulative impacts).
For logging projects on the Forest, most, if not all, of the ground
disturbance typically occurs in small tributary watersheds and headwater valleys. Project implementation delivers tons of additional sediment to these tributaries. It is the effect of the sediment on the quality of these upstream and headwater tributaries and their biota that is the concern. And just because a tributary is "intermittent" does not mean it is not important habitat. That sediment increases from a project may be "immeasurable" and "insignificant" further downstream does not address the impacts to the upstream on-site tributaries and their biota.
Agency assertions that project effects will be insignificant are also based on the assumption that Best Management Practices ("BMPs") will be properly implemented. However, the ineffectiveness and lack of enforcement of BMPs/Plan Standards and other mitigation measures on the GWNF was documented by the USDA Office of Inspector General in 1999.

It is difficult to believe that the 3000 miles of roads on the Forest (plus "temporary roads" [sic]), and all the other management actions and developments under the current Plan, only increase the amount of

sediment production by 14% over "natural" levels (see 1993 GWNF FEIS 2 - 74; note also that according to the figures here Alt. 8A produces over 400% more human caused sediment than Alt. 3). Are such estimates accurate?

Plan revisions for five National Forests completed in 2004 (including the JNF) found that typical southern waterways are overloaded with sediment hundreds or thousands of times higher than baseline or natural conditions. In a frightening redefinition of the serious problems our forest streams face, the Final Decisions for many National Forest Plans in 2004 deemed such unnatural levels of sediment as "acceptable." The analyses for the GWNF Plan revision must significantly differ from and improve upon the improper and inadequate sedimentation/water quality analyses performed for the JNF Plan revision (see the 2004 WildLaw/ Wild Virginia/ Virginia Forest Watch "Appeal of the Record of Decision for the Final Environmental Impact Statement for the Revised Land and Resource Management Plan for the Jefferson National Forest", incorporated by reference).

Solution:
The GWNF planners must fully recognize the degradation resulting from erosion and sediment production. The Plan must cease to fabricate and maintain the sources of sediment. This means significant reductions in logging and the closing and revegetation of roads. Cumulative impacts of sedimentation are fully and fairly examined in the EIS for the revised Plan. The Plan must also provide Standards and protocols requiring the proper site-specific consideration and analysis of the effects of sedimentation (not trying to mislead the extent/significance of effects by using an expansive analysis area that dilutes the magnitude of effects).

Wild & Scenic Rivers
Problem:
There are waterways on the Forest that qualify for designation as Wild, Scenic or Recreational Rivers, but they have not been formally recommended as such to Congress. Some waterways have outstandingly remarkable values that have not been recognized by the Forest Service. Additional stream mileage may qualify for designation.

For the 1993 Plan the Forest Service evaluated eligible waterway segments for possible recommendation as federally protected Wild, Scenic, or Recreational Rivers. Many of these are superlative and should be designated. Yet the FS has made no recommendations to Congress to gain this protective status for the fourteen waterways found to be suitable for designation.
Some of the stream segments previously evaluated have "outstandingly remarkable values" that the Forest Service failed to recognize. Officially designated as Exceptional State Waters (see HYPERLINK "http://www.deq.virginia.gov/wqs/exceptional.html" http://www.deq.virginia.gov/wqs/exceptional.html) are Brown Mountain Creek, Laurel Fork, Ramseys Draft, Pedlar River, and North Fork Buffalo River. The Forest Service needs to evaluate these for inclusion in the WSR system.
***** There are additional waterways, all of which have sections on the GWNF, that the Forest Service must evaluate for inclusion as Wild, Scenic, or Recreational Rivers: Trout Run, Waites Run, German River, Wilson Creek, Mill Creek (of Maury River), Mill Creek (of Cowpasture River), Potts Creek, Stony Creek (north of Bayse impoundment), Benson Run, Big Marys Creek, Stuart Run (with Buck Lick and Bolshers Runs),

Jim Dave Run, Little Back Creek, Crow Run (with Little Crow Run), and perhaps others.

Resolution:
The revised Plan has clear guidelines and objectives for the FS to gain WSR protective status for all the suitable waterways by making recommendations to Congress. All of the stream segments found eligible in 1993, as well as any new additions, should be formally recommended for WSR designation when the revised Plan is adopted. The GWNF planners must redo the WSR evaluations so as to recognize the "outstandingly remarkable values" possessed by Passage Creek Seg. B, Cowpasture River Seg. C, the upper part of Cedar Creek, and St. Marys River Seg. B and recommend these also. Other stream segments on the GWNF are also fully evaluated for inclusion in the WSR system.

Wilderness

Problem:
The GW National Forest has less federally designated Wilderness than most other National Forests (Johnson 2001; U.S. Forest Service 2000; SAMAB SAA 1996). At the same time, the GWNF currently possesses far more "roadless area" or "potential wilderness area" acreage than other eastern National Forests (SAMAB SAA 1996, and USDA FS 2008a,b). These relatively pristine roadless tracts offer the ready opportunity for Wilderness designation. Aside from its ecological and economic values, Wilderness is considered to be a very important recreational opportunity best provided for on public lands (Loomis, J.B. and R. Richardson 2000). There is a need for substantially more Wilderness Areas on the Forest.

Remnants of the original Great Eastern Forest are unique, vulnerable, and precious. Unfortunately, only ca. 4% of our GWNF is permanently protected as designated Wilderness, far below the national average of 18% of designated Wilderness in our National Forests. Indeed, our entire Southern Appalachian region is under-represented; in the entire 37-million-acre region, only ca. 1.1% (428,000 acres) is currently designated as Wilderness (Loomis and Richardson 2000 at pp. 20-23; Cordell, SAMAB SAA Social Technical Report at 178-82; USDA FS Southern Research Station 2006).

As Howie Wolke (2010) astutely observes: "Wilderness is every child's
inalienable right, the basic fabric from which civilization developed. Wilderness areas are our healthiest landscapes. Wilderness protects clean water, rare wildlife, native plants and biological diversity. On an increasingly overpopulated and degraded planet, Wilderness represents the freedom to roam at will in a natural landscape. Wilderness is freedom to be self-reliant, and to challenge and develop one's physical, intellectual and spiritual potentials. And because the United States evolved along with the existence of Wilderness, Wilderness has uniquely influenced American character. After all, the National Wilderness Preservation System was a uniquely American idea."

Resolution:
During the Plan revision process the Forest Service evaluates all the GWNF Mountain Treasures as potential Wilderness areas. The revised Plan allocates as Wilderness Study Areas around 500,000 acres of new Wilderness (most Mountain Treasures); perhaps some of this acreage could instead be allocated to MP 12C. This alternative will help bring the GWNF into managerial "balance", begin to counterbalance the enormous disproportion of developed anti-wilderness areas in its

contextual landscape, and bring it closer to the Wilderness percentage compositions on other National Forests as well as provide a higher percentage to help make up for the severe lack of opportunities in other NFs. In fact, unlike many other National Forests in the East (such as the Daniel Boone (KY), Allegheny(PA), Wayne (OH), or Mississippi National Forests), there is a ready opportunity here to provide a greater than average legacy of Wilderness for the future that will help to mitigate the lack of opportunities available elsewhere. Other feasible alternatives that need to be developed in the broad range are to allocate as Wilderness Study Areas all the "inventoried roadless areas" and to allocate as Wilderness Study Areas all the "potential wilderness areas". Such a Wilderness program will honor the memory of Ernie Dickerman, a native of the Appalachian region and leader of the American conservation movement, particularly in guiding the Congressional passage of the Eastern Wilderness Act.

Conclusion

In brief, recommendations for the Revised Forest Plan are to:

• Manage the GWNF, which are public lands, for values and resources that are not ordinarily available or protected on private lands.

• Identify all lightly roaded or mostly intact mature forest areas, old growth, uncommon forest types, special ecogical areas and conditions, rare species populations and locations, intact watersheds, drinking water sources, and trail sites and strictly protect them all from logging, road construction, drilling, mining, grazing, and other development.

• Fully protect and buffer rare and sensitive habitat conditions such as springs, seeps, rocky slopes and outcrops, steep slopes, sensitive soils, nutrient poor sites, sites sensitive to acidic deposition, high elevations, and rare forest types.

• Use natural disturbance regimes as models in managing forests for biological diversity and permit natural disturbance events where possible; cut back on intentional burns and allow some lightning ignitions to burn in a contained manner.

• Manage for early successional habitat on public forest lands in a way that does not jeopardize the integrity of large, intact, older forest areas; strictly protect all existing mature and old-growth forests from cutting and other harms.

• Position "managed" habitats close to existing early successional land uses, such as on private lands, to lessen the impacts of fragmentation across the landscape; if early successional forest habitat actually needs to be fabricated, recut sites already cut in the recent past.

• Make restoration a management and budgetary priority; close and obliterate roads, plant American Chestnut, combat Hemlock Adelgid.

• Aggressively address the encroachment of non-native invasive species. Restore remote interior forests to help stop the influx of invasive species by closing unneeded roads that cannot be properly maintained and that act as corridors for many of these invasive species.

• Respond to the threat of climate change by restoring and protecting altitudinal migration corridors.

• Focus on providing habitat for species that require large home ranges, have limited ability to disperse, are sensitive to disturbances onsite, move between different habitats, or are incompatible with edge effects (such as depredation).

• Connect and enlarge mature forest patches wherever possible through road decommissioning and other restoration efforts.

• Emphasize backcountry recreation such as hiking, camping,

bird-watching, horseback riding, mountain biking, hunting and fishing.
• Fully protect all areas identified in the publication "Virginia's Mountain Treasures: The Unprotected Wildlands of the George Washington National Forest." These areas provide the last, best places for outstanding recreation in the backcountry, and intact habitat for migratory songbirds, Black Bears, and other wildlife.
• Identify and recommend all areas that qualify for Wilderness Study Area and Wild & Scenic River designation.
• Ensure that all sources (watersheds) of clean drinking water are strictly protected.

If there are any questions regarding this Conservation Alternative please contact S. Krichbaum at the above address/telephone/email.

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Appendices:
Also incorporated by reference are the exhibits (300 pages of photocopied materials) submitted by Krichbaum in July 2003 on behalf of Virginia Forest Watch as part of VAFW comments on the proposed Jefferson National Forest Revised Land and Resource Management Plan, as well as the documents on the cd mailed to the FS/GWNF in June 2009.

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May 7, 2010

Plan Revision Team
George Washington & Jefferson National Forest
George Washington Plan Revision
5162 Valleypointe Parkway
Roanoke, VA 24019

Dear Plan Revision Team:

I would like to submit the following comments on the GW Forest Plan:

Timber

- Keep timber production areas on the periphery of the forest, along existing roads, and below 2500' in elevation.
- No timber harvests in public water supply watersheds such as Skidmore Fork, Little River, Upper North River, and Lookout Moutain.
- No new road construction for any timber sales.
- No timber sales in roadless areas.
- Maintain and install effective tank traps as needed on old logging roads and where needed on new skid trails to prevent unauthorized vehicle access.

Prescribed Burns

- I don't see any reason to increase prescribed burns above the present 8-10,000 acres per year. Individual burns should be no larger than 400-800 acres.
- The burns have detrimental impacts on ground nesting birds, such as juncos and veerys. Burns also can destroy beneficial biota in the top layer of the soils and threaten terrestrial salamanders.
- Oaks do not regenerate well after burns.
- Burns need to be kept back at least 200' from perennial streams. While collecting water samples in late April for the Trout Stream Sensitivity Survey, we noted that a prescribed burn had burned up to the water's edge along the North Fork of Boones Run in the Massanutten.

Energy Production

- No industrial wind development should be allowed on the GW. National Forest.
- This form of development is too destructive to fragile high elevation ridgetop habitats and would cause serious forest fragmentation. Threatened and endangered species such as peregrine falcons, Indiana bats and Cow Knob salamanders would be in jeopardy.
- Wind farms are not compatible with any recreational use on the forest whatever.

- The roads, substations and power lines that would be needed along with any wind development would further impact water quality and fragment critical habitats.
- The local counties would receive little, if any, electricity from the wind farms, and recreational visits to the forest by non-residents would decrease.

Natural Gas Drilling

- The hydraulic fracturing or "hydro-fracking" method of natural gas extraction has caused too many problems with pollution of surface water and groundwater in other states and offers too many risks to be used on our National Forest. Huge volumes of fresh water needed would impact stream flows needed for fisheries and public water supply.
- The hydro-fracking method should not be allowed at all on the GW Forest.
- Traditional gas exploration should not be allowed in any roadless areas.
- A major portion of the forest plan EIS should involve analysis of gas exploration impacts.

Wilderness

- There is a tremendous demand for protection of the best roadless areas both for non-motorized recreation and for saving unique unfragmented forests for all their biological benefits to numerous species and permanent protection of critical watersheds. Protecting these areas can help minimize the impact of climate change.
- The GW currently has only 4% of its acres in Wilderness designation. The average for National Forests is 18%. Yet the GW has some of the most outstanding remaining wild areas, as shown by Virginia Mountain Treasures.
- Some of the best and most unfragmented wild areas are on the Allegheny side of the forest west of the Shenandoah Valley, and these are still unprotected.
- Special areas such as Laurel Fork, Little River, Skidmore Fork, Ramseys Draft Addition, Benson Run and others have many threats to their unique roadless qualities. Only Wilderness designation would ensure their protection.
- I fully support the Shenandoah Mountain proposal and all of its benefits as described on the Friends of Shenandoah Mountain web site. The proposal needs the support of the Forest Service and should be reflected in the new forest plan.

I appreciate the opportunity to comment.

Respectfully submitted,

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U.S. Forest Service
Attn: George Washington Plan Revision
5162 Valleypointe Parkway
Roanoke, VA 24019
comments-southern-georgewashington-jefferson@fs.fed.us.

To the Forest Service:

The Maryland Chapter of the Sierra Club has the pleasure of submitting these comments for the scoping phase of the forest plan revision for the George Washington National Forest. With a membership of more than 15,000 people, the Maryland Chapter is devoted to the fundamental purpose of the Sierra Club: to explore, enjoy and protect the wild places of the earth.

Members of the Maryland Chapter have visited the GWNF over a period of many years. Much of the forest is situated within a two-hour drive for many Marylanders. There are no national forests in Maryland, so we look to those in our neighbor states for intact roadless areas, remnants of the wild Appalachian Mountains.

We also have 44,000 acres of state land protected in the Maryland Wildlands Preservation System, established by the Maryland Wildlands Act of 1971, a state law inspired by the Wilderness Act of 1964. (Further information on this state system can be found at: http://www.dnr.state.md.us/land/stewardship/wildland.asp.) Our members are well aware of the value of wild lands as habitat for birds, fish and other animals and as places of solace for the human soul. That is why we take a special interest in the George Washington National Forest.

Chapter members were active in the 1970s in a campaign that led to the Eastern Wilderness Areas Act of 1975. The Forest Service was then arguing that no lands in the East could qualify for wilderness status, but the United States Congress disagreed. Between 1984 and 2000 six units of the GWNF were designated as wilderness: Ramseys Draft, Rich Hole, Rough Mountain, Saint Marys, Priest, and Three Ridges. The total acreage of the six wilderness areas is under 43,000 acres, representing only 4 percent of lands in the GWNF.

We support the Shenandoah Mountain proposal submitted by a coalition of citizen groups, including the Virginia Chapter of the Sierra Club. Based on field studies by members of several citizen groups and negotiations with diverse stakeholders, the coalition has proposed a Shenandoah Mountain National Scenic Area (NSA) of 115,000 acres and within it four wilderness units. The NSA would give statutory protection against logging and other forms of development in the complex of roadless areas lying between US Route 33 and US Route 250, to the west of Harrisonburg. The area is already popular with recreational visitors, who enter on forest roads and some 46 trails.

We urge the Forest Service to include the NSA as a recommendation in the preferred alternative, with wilderness recommendations for the following units within it: Bald Ridge (6,550 acres to be added to Ramseys Draft Wilderness), Lynn Hollow (6,168 acres adjoining Ramseys Draft Wilderness and separated from it by the Shenandoah Mountain Trail, which would remain open to mountain bicycles), Little River (12,490 acres), and Skidmore Fork (5,228 acres).

We also endorse two other parts of the Shenandoah Mountain proposal, namely the Kelley Mountain/Big Levels National Scenic Area of 12,895 acres, south of Waynesboro, and the Laurel Fork Wilderness (10,153 acres).

The top priority for the new GWNF plan should be to protect all the large blocks of wild land that exist now. The statutory protection added by NSA and wilderness status will help Forest Service managers resist pressures for development in the decades ahead.

We look forward to a draft plan with a preferred alternative that treats the wild, roadless areas of the GW as a rare and valuable resource, with the strongest possible protective measures.

We thank you for this opportunity to comment.

Sincerely yours,

Ron Henry
Chapter Chair
Sierra Club, Maryland Chapter

Founded in 1892, the Sierra Club is America's oldest and largest grassroots environmental organization. We encourage our members, individually and collectively, to "Explore, enjoy and protect the planet." We have chapters in all 50 states and Puerto Rico, with more than 600,000 members nationwide, including more than 15,000 members in the Maryland Chapter.

VIRGINIA WILDERNESS COMMITTEE

423 Sheep Creek Lane
Fairfield, VA 24434
May 7 2010

Ms. Maureen Hyzer, Supervisor
George Washington Plan Revision
George Washington & Jefferson National Forests
5162 Valleypointe Parkway
Roanoke, VA 24019

Dear Ms. Hyzer and the GW Planning Team,

Thank you for giving us yet another opportunity to comment on revision of the George Washington Forest Plan. I understand that our comments submitted on January 17 and June 4 of 2009 may have contributed to the current alternatives and that both they and comments to follow will be considered in creating alternatives to be considered in selecting a draft Forest Plan.

Comments on the Need for Change Topic 2- Roadless Area, Backcountry and Wilderness Management

Proposed Action 1

We applaud the recognition of the Shenandoah Mountain Proposal (SMP) in the FS documents. A more desirable recommendation would have duplicated the SMP, and followed the boundaries and protections which comprise the proposal. Responses to the FS recommendations follow.

The Little River Wilderness as identified in the SMP does not need to be reduced in size by the FS in its recommendation because of existing mineral rights. The existence of private mineral rights, alone, is an inadequate rationale for excluding areas from the inventory. The Handbook's inventory criteria for Eastern areas state: "The area has existing or attainable NFS ownership patterns, both surface and subsurface, that could ensure perpetuation of identified wilderness characteristics." FSH 1909.12 Ch.71.12(3). As the GW Inventory Guidance recognized, all minerals are attainable if the seller and buyer are willing. We see no reason why private mineral rights should not be viewed as "attainable." Recommending the whole 12,490 acreage has no bearing on the future of these mineral rights. A preferred recommendation would acknowledge the existence of those rights and indicate willingness on the part of the FS to acquire them, and perhaps to promote a plan to solicit help in their acquisition. Land conservancy groups exist whose mission is to facilitate solutions to such dilemmas. The Nature Conservancy helped broker a deal on Laurel Fork back in the 1990's wherein the FS now holds gas leasing rights. Reducing the size of Little River by removing this area from the SMP- the largest candidate for Wilderness designation in the proposal- would be inappropriate.

The recommendation of the Ramsey's Draft addition, Bald Ridge, is welcome and logical. Ramsey's Draft Wilderness is unique in the country's National Wilderness Preservation System, and its enlargement would offer protection to those special areas to its north and east. This addition would contribute more rugged and beautiful lands to this popular Wilderness.

Lynn Hollow on the western flank of Shenandoah Mountain and abutting the Ramsey's Draft Wilderness would also be a positive contribution to the existing Wilderness. An expanded tract of Wilderness would create a large area for natural processes to occur. There are not many opportunities in the Central Appalachians to protect such a large and outstanding mature forest that provides habitat for resident and migratory bird species- a number estimated at over 250. In spite of the privately owned mineral rights we encourage the FS to recommend this area as a candidate for Wilderness. Where would we be today if we did not leave options open for acquiring lands, or in this case mineral rights, rather than giving up before we even tried to attain them? Lynn Hollow is an integral component of the SMP. A recommendation for Wilderness means that the area would at least be managed as a Wilderness Study area notwithstanding future prospects of mineral rights ownership.

Skidmore Fork is the fourth of four embedded Wilderness areas within the proposed Shenandoah Mountain Scenic Area included within the SMP. This area is particularly rugged and imparts a feeling of remoteness. The private land along the western boundary at the top of Shenandoah Mountain should not disqualify this outstanding candidate from recommendation as Wilderness. The private land may benefit from increased desirability as a neighbor to Wilderness. There is an access road to the private land on the western side of the mountain, and egress is not compromised. Skidmore Fork is also comprised of a drainage- an oft referenced desirability for Wilderness candidates. Switzer Lake, the City of Harrisonburg's reservoir, would be protected as a source of high quality water given protection of its water source- the proposed Skidmore Fork Wilderness.

Reluctance on the part of the Forest Service in the past to suggest areas for National Scenic Area should not drive current recommendations. The Shenandoah Mountain Scenic Area is a strong compromise between differing user groups to protect the largest remaining unfragmented forest in the Central Appalachians. The largest unfragmented forest in the Central Appalachians certainly demands attention and protection. A NSA would allow current recreational opportunities to continue and protect this swath of forest for future generations. Driving or flying over the Appalachians highlights the developed and fragmented nature of our forests. Natural systems left unmanaged may someday provide insights into ecological processes in ways that we cannot now predict. In a further collaborative effort our proposal would allow for the continued management of existing game openings, and ensure that seasonally opened roads remain open for hunters. The comments submitted by the Friends of Shenandoah Mountain are "seconded" by the Virginia Wilderness Committee- Shenandoah Mountain is a unique and special area in many ways, and its protection as part of the SMP continues to gain support.

All recognize the special character of Laurel Fork. As one of only two "northern boreal forests" in the state we value its uniqueness. Additionally, its remote location, large size, pristine waterways, and satisfying aspect all manage to come together in such a way that Laurel Fork may be the premier candidate for Wilderness in our state. The major issue of contention is perhaps the question of "management" – perceived by some as necessary to retain its special characteristics. Our prediction is that should Laurel Fork be designated under a special management prescription, i.e. natural research area or special biological area, at some point the area may become vulnerable to exploitation. The Forest Plan manages an area for a short time. Politics and pressures are ever-changing, and could place Laurel Fork at risk someday. Another objection to its recommendation has been the existence of the red pine plantation along Locust Spring Trail. VWC has observed recently that the pines in this plantation are dying, and native red spruce are quite naturally taking their place. Laurel Fork deserves to be protected as Wilderness for the citizens of Virginia and for the citizens of our country.

The final area comprising the Shenandoah Mountain Proposal is the Kelley Mountain Big Levels area for which we seek National Scenic Area recommendation. As stated above it would benefit this natural area to be legislatively protected. Combined with St Mary's Wilderness over 22,000 acres would be available for recreational use in a highly popular and heavily visited area of the George Washington. National Scenic Area protects the trails for mountain biker use.

We support the recommendation for the "western" addition to the St Mary's Wilderness, and we also would like to see the "south" addition recommended. Once again it would be unfortunate if existing mineral rights preempted an opportunity to expand a wilderness area. Please note that we did not recommend that the "northern" addition be recommended in respect to its popularity amongst bear hunters. St Mary's is one of the Wilderness gems along Virginia's Blue Ridge Mountains and its expansion is desirable.

We also support a recommendation for a Wilderness addition to the Rich Hole Wilderness, and would like to see the boundaries reflect those submitted in our comments on January 17 of 2009. A complete list of our recommendations for forest protections is found at the end of our letter.

Proposed Action 2

The Secretary of Agriculture signed the Roadless Area Conservation Rule in 2001, and though its status has seen court activity, a final decision has not been made. It follows that all areas qualifying as roadless remain within its management. VWC asks that all roadless areas be managed under the 2001 Roadless Rule.

Proposed Action 3

Areas that qualified for Inventoried Roadless Areas and were overlooked in the original inventory, and which have now been placed there under the moniker "potential wilderness area" cannot be excluded from areas eligible for management under the Roadless Rule of 2001 because of present management prescription. Construction of temporary road and management for

timber are prohibited. Disqualifying an area because of its shape is not an acceptable reason for its removal from the IRA.

Brief and General Comments on Summary of the Need for Change

2. VWC is concerned about any policy that allows construction of roads- temporary or otherwise. Forest fragmentation is detrimental to many flora and fauna species. Areas within the boundaries that have been expanded to completely define a roadless area should not be removed from the Inventory of Roadless Areas.

4. Snake Run Ridge VWC would like for the FS to Protect Peter's Mountain as a Special Biological Area rather than recommend it as a Wilderness area for the reasons described in an excerpt from a report from the Division of Natural Heritage:

Natural Heritage ecology staff submitted a final report to the U.S. Forest Service detailing the report to the U.S. Forest Service detailing the ecological landscape units of an 11,000 acre area on Peters Mountain in Alleghany County. Twenty landtype phases, based on repeating associations of vegetation, soils, and topography were classified and mapped in the study area. In addition, the report provides formal documentation of 4,700 acres of never-cut, old-growth forest, which are among the largest patches of old growth that has been documented on the George Washington and Jefferson National Forests. The Peters Mountain study area is a significant site for biodiversity conservation because of its old-growth forests and the occurrence of outstanding shale barrens, mountain ponds, and two federally listed plant species. *Virginia Natural Heritage E-News Spring 2001*

5. We fully agree that "unplanned ignitions" can be allowed to burn for resource enhancement. However, the desire to conduct prescribed burns should not be used as a reason to exclude an area from roadless inventory or from wilderness recommendation.

7. We applaud your intention to develop a strategy to manage NNIS. This is increasingly a major threat to the integrity of the entire forest. We also emphasize that the interior roadless, wild areas are best protected from NNIS threats, and must be managed in a way to prevent future arrival of invasives (no new roads, logging, or development).

13. Our response to the need for change recommendations have been described above, and our wilderness recommendations are the focus of this letter. A list is found at the end of the letter.

14. We commend the Forest Service for increasing the acreage of Roadless Areas on the GW. We believe that all of these areas need to be managed under the 2001 Roadless Rule, and do not believe that active management should take place.

15. We strongly encourage the USFS to place a moratorium on Marcellus Shale gas drilling in the National Forest. The extraction method ("hydrofracturing") involves the injection of unknown quantities of water, sand, and chemicals deep into the ground to break down rock formations. There are unknown and unintended consequences of this technology, including

potential contamination of ground and surface water. Permitting this type of drilling would directly contradict the FS acknowledgement of the importance of maintaining high water quality for drinking and for wildlife.

While hydrofracturing is not currently federally regulated, the EPA has launched a 2-year national study on the water and human impacts of this method of natural gas extraction. Do not put our forests and water supply at risk by permitting this type of natural gas drilling.

In addition, all roadless areas with FS mineral ownership must be protected from any kind of oil and gas exploration.

19. Wind energy should not be permitted in the National Forest. We have included our wind position paper as a separate document.

20. We do not support the construction of temporary roads in any portion of areas that belong in the inventory of roadless areas, and which need to be managed under the 2001 Roadless Rule.

Comments on Potential Wilderness Area and Inventory Evaluation

Chapter 1

Fourteen areas have been unjustly excluded from the Roadless Inventory on the basis of less than 70% federal ownership of mineral rights. The supposition that mineral rights may be unattainable or over-priced, or that this situation would not be addressed by advocating groups should one of these areas come up for Wilderness recommendation, is not within the purview of the Governmental Accounting Office. Any decision about the suitability for national forest lands to be included in the Inventoried Roadless Area must not be made on future "what-if" scenarios. We would like to see Long Mountain, Great North Mountain, Church Mountain, Massanutten Mountain South, Cow Knob, Dunkle Knob, Radar Mountain, Kretchie Mountain, Hog Pen, Feedstone Mountain, Hankey Mountain, The Priest addition, Back Creek Mountain East, and Panther Ridge added to the Inventory of Roadless Areas and managed under the 2001 Roadless Rule.

Reading over the attempts at justifying the exclusion of Dyers Knob, Sidling Hill, Warm Springs Mountain, Back Creek Mountain, Middle Mountain, and Jerry's Run from the Roadless Inventory is very frustrating for me as I have visited these areas and find them all to be special places where I am under the illusion that I am in a wild place in Virginia (or West Virginia). Of course no place in Virginia or anywhere on the globe is truly wild, but we seek to protect those places that lend a feeling of remoteness. The removal of Dyer's Knob because of its shape and the fact that it does not encompass an entire watershed or mountain are preposterous excuses. It qualifies because of the lands surrounding it –as do the other five areas. Sidling Hill offers me a Wilderness experience. These areas are all in some of the least developed land in the George Washington. To speculate that development will compromise the ability of Warm Springs Mountain to offer solitude presupposes conditions that may or may not occur, and which occurrence is not relevant to an area's ability to be Wilderness. Back Creek Mountain West is

also located in a very remote area. Middle Mountain is bounded by Douthat State Park which lends safety to the shared border, and Jerry's Run is unfairly removed because of its proximity to I64 when Virginia actually has Wilderness areas adjoining busy thoroughfares including interstates.

Green Mountain, Elliot Knob South, and Mud Run Mountain should not be excluded from the Roadless Inventory because of a forecast of "inability to manage for Wilderness." Green Mountain should not be excluded because of undulating borders and projected development. Elliot Knob South is part of Great North Mountain and remains inherently a special place in spite of active management in its southern areas. Mud Run Mountain is a perfect candidate for protection because of its limited accessibility.

Failure to include Signal Knob, Dameron Mountain, Short Mountain, and North Mountain from the Roadless Inventory is making another pre-emptive decision that does not comply with protecting eligible roadless areas for future consideration for additional protections. "Rather narrow", "illegal atv use", "bounded on the long north border by a railroad", and "active management in recent years" are unacceptable excuses for the exclusion of these areas.

If I had not spent time in both Snake Run Ridge and White's Run I may be inclined to agree that areas "small, bounded by roads, and (lacking) any measurable core solitude" may not be appropriate candidates for inclusion in our Inventoried Roadless Areas. However, it is my experience that both areas because of location, surrounding lands, and inherent nature provide outstanding opportunities for a primitive experience in a remote setting.

Chapter 2

The Forest Service Handbook is a necessary document for guiding forest service planners in determining areas appropriate for Wilderness recommendation. However, it is a guidance document, not the law. It changes. The Wilderness Act is a law and it is open to interpretations that may vary from those expressed in the FSH. The people and the Congress look to Forest Service recommendations for Wilderness, but are not restricted to them.

As The Friar on the Pedlar district once qualified for inclusion as an IRA, there is no excuse for its removal. It deserves continued protection as a stepping stone between the Mt Pleasant Recreation Area and The Priest Wilderness. That whole area on the Pedlar is a popular recreational destination.

We appreciate the extended boundaries as shown on Table 4.

Existing Situation

The existing situation needs to evaluate Wilderness on the George Washington National Forest. The Forest Service has an opportunity to recommend protection of some of the finest remaining, largely unfragmented areas in the Central Appalachians on Shenandoah Mountain, and to recommend stunning candidates on all of its districts. Wilderness on the Monongahela is great,

as is Wilderness on the Jefferson. The Shenandoah National Park is a great place, and I am glad of Wilderness there, but a National Park cannot be compared to a National Forest. Also I am not sure I understand what either the Jefferson or the Mon have to do with the minimal acreage of Wilderness on the George Washington. I do see a number of Wilderness areas under 5000 acres, and I see that the Mon has some wonderfully large areas- but we do not have that luxury of acreage, and it seems irrelevant to this revision of the GW Plan.

Capability Availability and Need

Capability- The relevance of "acidified streams", presence of structural improvements", "private inholdings", "subdivisions adjacent to PWA boundary", "estimated percentage of boundary beside private lands", and "other evidence of human habitation or use" to an area's suitability for Wilderness is subjective and questionable. It is a very arbitrary list of characteristics. The Forest Service is charged with selecting areas to recommend as Wilderness in order to promote "opportunities for primitive recreation, solitude, physical and mental challenge, and inspiration". The FS may or may not be qualified to determine whether an area fulfills these possibilities. The list under "Ability to provide special features or values" is an attempt to quantify attributes described in the Wilderness Act, but does not succeed in capturing an area's ability to actually provide special features or values. Actually, according to the Wilderness Act an area "may contain ecological, geological, or other features of scientific, educational, scenic, or historical values" but is not required to do so. Furthermore, the public should have been invited to participate in this evaluation of the area's rather than having little "public comments" and "Virginia Mountain Treasures" boxes at the bottom of the charts as the inclusion of public participation.

Availability-The availability charts fail to assess valuable characteristics that would prove to be assets in promoting that an area be recommended for Wilderness. Also, the ability of other Forest lands to fulfill the listed "resources" is not addressed at all. "Resources" not included in the list that would be available in these areas as Wilderness include hiking, birding, bushwhacking, camping, hunting, fishing, botanizing, enjoying the quiet, communing with nature, boating, horseback riding, and etc. Especially disturbing in this list is the Department of Energy category as an "availability", and the "public access" defined as the presence of roads. The interests or measurements of the Department of Energy concerning wind power classes as a use in the National Forest is an issue that has not been decided, and its inclusion in this evaluation is highly inappropriate and misleading. Public access is not prohibited anywhere on the forest as far as I know, and the purpose of including the presence of roads as an evaluation in the determination of an area's availability for Wilderness recommendation when we are looking at roadless areas is confounding.

Need-The question of need is one that is highly subjective. A responsible evaluation of need would benefit from a discussion that includes at least equal time for the promotion of additional Wilderness. The discussion on need in pages 13 and 14, and pages 25-28 is one that defends current Wilderness as adequate, and unilaterally decides that "the primary benefit that could be achieved through additional designation of Wilderness on the GW would be (through expanding existing Wilderness areas)". Certainly expansion of many of our Wilderness areas is encouraged,

but the expansion of the Wilderness Preservation System should not be limited to lands adjoining or adjacent to current Wilderness. An issue not considered in the need discussion is the desire on the part of American citizens to know that Wilderness exists – folks who have no intention of ever physically visiting or recreating at any given location.

Adam's Peak is a premier candidate for Wilderness that we suggest be recommended for National Scenic Area designation because of both its historic use as a field research area for Nature Camp participants, and because of its relatively recent "discovery" by mountain bikers. The Whetstone Ridge Trail is highly popular amongst hikers and bikers. South Mountain, Adam's Peak, McClung Mountain, and Whetstone Ridge all offer outstanding opportunities for solitude, primitive recreation, the enjoyment of old growth, Blue Ridge flora and fauna, hunting, fishing, and supreme views of the George Washington National Forest and mountains in all directions. Significantly, the Rockbridge Board of Supervisors passed a resolution in favor of NSA designation for Adam's Peak. VWC has worked on boundaries so that an area of timber suitability of interest to the Pedlar District Ranger would be excluded from the boundary. No roads would be closed. The boundary that adjoins private land is not a threat to "management" of NSA character. Using "known illegal ATV use" as a consideration in evaluating the capability of this area to be recommended as NSA would undermine the wishes of the many pro-active persons who are desirous of additional protected lands on the GW. If the area were protected it would give Law Enforcement Officers additional reasons to crack down on illegal activity. Such has been the case on several wilderness areas on the Jefferson including Beartown. Additionally, this area has experienced a "natural" ignition in the past 15 years. Wildfires preclude the need for "prescribed burns".

Archer Knob in combination with Elliot Knob would create a nearly contiguous wilderness unit of over 12,000 acres. Archer Knob includes a large component of old growth. The creation of an Archer Knob/Elliot Knob Wilderness would be similar to the James River Face/Thunder Ridge Wilderness or the recently approved Garden Mountain/Hunting Camp Creek Wilderness where they are separated only by a road. As far as the large acreage of pine, the manipulation of forests with prescribed burns has not been studied enough to confirm its long term benefits to all ecosystem inhabitants. Burning that may or may not have taken place in the past may be irrelevant or damaging in the long term to our rapidly changing forests.

Beard's Mountain adjoins Douthat State Park, and by virtue of this location is a popular recreational destination for folks visiting the park. Continued management as a roadless area enables visitors to choose a less developed outdoor experience. The pronouncement that "proximity to Douthat…may result in unacceptably high levels of user interaction that diminish the mental challenge and need to rely on one's own primitive recreation skills and abilities" is irrelevant and contestable, and an inappropriate judgment to make about visitors to Beards Mountain and the type of experience that they may choose, or what they may consider to be a "wilderness experience". Additionally timber cutting is prohibited in areas managed under the Roadless Rule except under certain conditions, and should be unsuitable in roadless areas in order to protect them.

Beech Lick Knob is an ideal candidate for Wilderness designation. It is large and remote, and the area has wild character, relatively free of the effects of man. A major feature is its 4000 acres of old growth. Although the Great Eastern Trail is being constructed through the area with the intention of being a shared use trail, the area of Beech Lick Knob to the east of FR 302 and the GET should be recommended for Wilderness. This would allow access for mountain biking on the GET, but still offer protection for the wildest part of Beech Lick Knob. A Beech Lick Wilderness would satisfy the need for Wilderness in the northern part of the GWNF, and it is the best candidate to meet this need. Currently, Ramseys Draft, located more than 35 miles to the south is the closest Wilderness area. The fact that this area would make good timber is not an acceptable reason to reject it for Wilderness designation. It is not one of the criteria, and the fact that it has a healthy, mature forest is a good reason to recommend it for Wilderness. VWC joins PATC in asking for permanent protection for this area.

Big Schloss deserves to be protected as a National Scenic Area with an imbedded area for future Wilderness recommendation: Three High Heads. The location of Big Schloss, its large size, and its popularity as a recreational destination for metropolitan Washington all predicate a high level of protection. The statement made that the "dense system of existing, popular trails results in a high number of encounters with other users, diminishing or elimination the opportunities for remoteness and relying on one's own skills and abilities" is yet another example of an inappropriate judgment made by the Forest Service that is irrelevant and debatable in the evaluation of an area's "wilderness" capability. The Forest Service is examining the whole without looking at the component parts. Additionally, liming of Stony Creek does not disqualify Big Schloss- liming by helicopter has taken place twice on St Mary's River in the St Mary's Wilderness. Trail shelters, bridges and walkways are all permitted in a Scenic Area. Please refer to comments submitted on January 17 2009 for a thorough description of a "Big Schloss National Scenic Area". Of particular concern in the "availability chart" is the figure of 7, 550 acres identified by the Department of Energy as wind power class 3 or greater. In an area as popular and sizable as Big Schloss development of wind energy is an inappropriate use of public lands. The FS evaluation indicates the Big Schloss area is not conducive to outstanding scenic qualities. This could not be further from the truth. Its extensive ridgeline and unique rock outcrops offer some of the most outstanding and memorable scenery in Virginia. A quick Google search reveals this area has been photographed and written about by visitors across the country. It is probably one of the most visited and photographed areas in the whole GW.
Big Schloss is a large, popular recreation area for hikers, mountain bikers, and equestrians. It offers outstanding scenery, unique rock outcrops, and a challenging trail network. The Big Schloss area has the Salus Spring Special Biological Area and 6000 acres of old growth. The rock outcrops are used as hacking stations for reintroduction of peregrine falcons. VWC joins PATC in asking for permanent protection of this area. Given the popularity and established use of mountain bikes in the area, Big Schloss would make an ideal candidate for a National Scenic Area, with the 5,200-acre Three High Heads area on Paddy Mountain recommended for Wilderness designation.

Crawford Knob, an expansive northern counterpart to Elliot's Knob, and the northern portion of Great North Mountain, would benefit from management as a Roadless Area. VWC appreciates the addition of formerly overlooked acreage being added to this area. To describe Crawford Mountain as "essentially a mountain offering many external views to non-Wilderness Forest Service lands and to private lands…" is a perplexing comment upon its capability of qualifying as a potential Wilderness candidate, and a misleading statement. Crawford Mountain is a magnificent mountain where one can experience a feeling of remoteness, and solitude. The "sights and sounds" reference to views of Staunton is in refutation of repeated decisions by Congress to designate areas as Wilderness that have been denied recommendation by the Forest Service because of a distorted interpretation of the Wilderness Act.

Dolly Ann is a popular recreational area whose continued protection as a Roadless Area we support**.**

Duncan Knob, along with Northern Massanutten Mountain and Signal Knob, is an area that we join the Potomac Appalachian Trail Club wishing to see recommended as part of the Northern Massanutten National Recreation Area. The density of trails, proximity to northern Virginia, and popularity are sound reasons to recommend this area as an NRA.

Elliott Knob Although Elliott Knob has several communication towers on top and an access road, the western side of the mountain has outstanding wild character and should be recommended for Wilderness. It is not necessary that the Forest Service examine a whole area and overlook components that would be good candidates for Wilderness. A recommendation of Wilderness for the western side would allow all trails to remain open to mountain bikes except for Cold Spring Trail, which is too steep for safe and sustainable mountain biking anyway. In combination with Archer Knob, the Forest Service could recommend a 12,000 acre unit. The mature forest in this unfragmented area has pockets of old growth and several rare wildflowers that thrive in this habitat. It also provides excellent habitat for bear.

Galford Gap (Scaffold Run) is an area which we are pleased to see in the roadless inventory. It is a unique area whose shape does not diminish its capability to provide a rugged and primitive wilderness experience. Mountainside and mountaintop views are certainly acceptable terrain as far as their capability to offer an experience in the Wilderness- especially as there are no trails. Allegheny Mountain is a special place where ecological processes dominate just as in any other place in the Forest- ecological processes are not restricted by political or forest boundaries. The statement that Galford Gap "due to its size and primarily due to shape and configuration ...does not provide a great opportunity for ecological processes to dominate" is a bewildering and bizarre description. Disturbing is the identification by the Department of Energy of 704 acres having wind power of class 3 or above. Our opinion is that the FS has determined prematurely and inappropriately that this is an "agency interest" and includes it as a parameter in an evaluation of roadless areas as potential wilderness.

Gum Run provides a large, wild inventoried roadless area on the northern end of central Shenandoah Mountain. With three major ridges (Dundore Mountain - over 4000 ft, Goods Mountain, and Riven Rock Mountain), the area is rugged and home to many small drainage

streams; the western flank provides ground water protection for Switzer Lake. Cow Knob Salamanders are known to reside on the high ridges of Dundore. The area provides a wild backdrop to developed recreation and housing in the Rawley Springs area, is outstanding habitat for black bear with hunter access via FDR304 and FDR225, and offers tremendous views from Rt. 33 through Rockingham County. Considering the large, remote nature of the area with several native brook trout streams and importance to primitive recreation opportunities, this area must be managed under the 2001 Roadless Rule, and be recommended as Scenic Area as part of the Shenandoah Mountain National Scenic Area.

High Knob (Skidmore and Dry Run) is a remote and rugged portion of the GW. Skidmore Fork is an integral portion of the Shenandoah Mountain Proposal for which we seek a Wilderness recommendation. Boundaries have been carefully drawn to exclude the Shenandoah Mountain trail which is a segment of the Great Eastern Trail.

Jerkemtight is one of the most outstanding areas being evaluated in the inventory. Its size and remoteness make it an ideal candidate for Wilderness; however, mountain bike organizations have been holding large trail rides on the Shenandoah Mountain Trail for several years. This is an area that exemplifies the need for the Forest Service to look at the area as components rather than considering the whole area and dismissing it because of user conflicts. It would make sense to recommend the Benson Run and the Bolshers Run drainages for Wilderness and leave the rest of the Jerkemtight area open for mountain biking. The Benson Run watershed is pristine, remote, and unspoiled. It offers a true wilderness experience for those seeking solitude. It is unusual today to have the opportunity to preserve a whole watershed as wilderness. Benson Run is one of the gems of the GWNF. VWC asks the Planning Team to give strong consideration to recommending these portions of Jerkemtight for Wilderness. Bolshers Run does not have any trails, and includes the eastern slope of Sisters Knob. The equestrian use of trails in Benson Run is totally compatible with Wilderness designation. The area meets the criteria that at least 70% of the mineral rights must be federally owned. Since the privately owned mineral right are in the lower Benson Run area, if private owners decided to develop there, it would not have a substantial impact on the upper Benson Run area. Optimally, these rights could be acquired at some point in the future.

Kelley Mountain Big Levels is a good candidate for extra protection on a number of fronts. Being adjacent to St. Mary's Wilderness its recommendation for National Scenic Area would create a protected land mass of over 22,000 acres that would remain available for both hiking and biking, and other forms of recreation. Boundary lines shown for the Kelley Mountain Big Levels area submitted as a part of the Shenandoah Mountain Proposal have taken into consideration the importance of the jeep road to bear hunters. Coles Run and Mill Creek are important watersheds for two reservoirs. Torry Ridge offers appealing and significant rock features. The whole area is well served by several stunning and popular trails. The lower areas, or the "levels", are biologically significant because of geology and the subsequent evolution of disjunct flora and fauna species. Kelley Mt is an integral component of a large ecologically important area.

Laurel Fork as stated previously may be the premier candidate for Wilderness designation in the state of Virginia. A recommendation for it to be Wilderness is supported by mountain bikers who collaborated in the development of the Shenandoah Mountain Proposal. Management in an effort to prevent migration of northern species as a result of climate change is not a good reason for excluding an area in need of permanent protection through legislation.

Little Alleghany is one of the areas which VWC would like to see recommended for Wilderness in the Forest Plan. Certainly its shape is awkward, but that does not negate its capability for Wilderness, nor does it "impede the area's ability to have ecological processes dominate the landscape". The lack of trails, location on the Virginia /West Virginia boundary, size, and ruggedness are some of the characteristics that make this area a good candidate for Wilderness recommendation. The Forest Service should recommend the whole area and should assume that the attainment of the block of mineral rights near the top of the eastern leg is a possibility. The long western boundary atop the high elevation of Allegheny Mountain is one of the attributes that makes this a good candidate for protection.

Little Mare Mountain's location and use as a recreational area lend weight to the importance of its protection as a roadless area. It is not a VWC candidate for Wilderness recommendation, but it is nevertheless disconcerting to read that an area would be discounted because "the topography is not as rugged for offering physical challenges". Also, ecological processes are not restricted by political boundaries. Proximity to a state park is an inappropriate reason for determining an area's capability. Finally, the wishes of The Nature Conservancy should not be a determining factor in the evaluation of an area's availability when the Virginia Wilderness Committee's or some other group's wishes are not expressed also.

Little River is at the heart of the Shenandoah Mountain Proposal and we seek recommendation of the area as shown in the proposal. The boundary lines are a fundamental aspect of the proposal and testimony to the ability of different users to work out a compromise.

Massanutten North is a good candidate for inclusion in a National Recreation Area with the additions of Signal Knob to the north and Duncan Knob to the south. The Lee Ranger district lacks any lands with any federal legislative protections. The location of this strip of roadless areas and its popularity present a good opportunity for the Forest Service to acknowledge their importance to recreationalists with an NRA recommendation. The Potomac Appalachian Trail Club supports this recommendation for a North Massanutten NRA.

Oak Knob-Hone Quarry Ridge Given the proximity of Oak Knob – Hone Quarry Ridge to the Hone Quarry Recreation Area, this large roadless area offers accessible yet remote and primitive recreational opportunities. Mountain biking, rock climbing and hiking are very popular in the area, with approximately 26 miles of trails inside the boundaries. Family recreation is also abundant here, favorite destinations including Hidden Rocks, Cliff trail, Big Hollow/Hone Quarry Ridge loop, and the waterfall along Slate Springs. Because of established and heavily-used mountain bike trails, we do not recommend this area as Wilderness, but strongly encourage its inclusion as the recreational heart of the Shenandoah Mountain National Scenic Area. Demand for easier trails in the Forest is high, and Oak Knob – Hone Quarry offers a great

number of accessible, short trails that people take advantage of. This area must be managed in a way that protects and promotes the valuable recreational resources it offers.

Oliver Mountain is a wild and remote area which the Virginia Wilderness Committee would like to see recommended for Wilderness. Evaluations described in the FS narrative are not considerations that impact an area's capability to be Wilderness. "Views to the exterior" and "rates fairly low for providing physical and mental challenge" are not legitimate criteria for finding an area unsuitable for Wilderness. We suggest wildfire as an appropriate means of allowing fire to play a natural role in the environment, and we are opposed to wind energy development on the George Washington National Forest. VWC submitted a recommendation last January 2009 which both adjusts boundaries so that the shale barren and the illegal Hughes Draft Road are removed, and deals with mountain bike issues. The proposed wilderness is 8700 acres. The Forest Service needs to look at the components within large areas.

Paddy Knob is a good candidate for Wilderness recommendation given its position along the eastern flank of Allegheny Mountain. It is a steep and rugged mountainside capable of offering a primitive experience. Such extremely steep slopes would not be an appropriate place from which to harvest timber. The location of Paddy Knob is remote and the area is thinly populated. The habitat is unusual for Virginia and deserves protection. The proximity of Bath Pump Storage is not a factor affecting the capability of Paddy Knob to be Wilderness, and the sights and sounds issue is one that has been shown by Congress not to influence an area's suitability for Wilderness designation.

Potts Mountain is a good candidate for Wilderness recommendation and which in combination with Barbour's Creek Wilderness – though separated by Potts Jeep Road-and Shawvers Run Wilderness-separated by FR 176- would create a desirably large Wilderness complex. Rocky outcropping reliably lend excitement and challenge to mountain tops. To suggest that an area is not capable of satisfying wilderness characteristics because it "is not deeply incised with steep, twisting drainages to offer physical and mental challenge" is a clearly biased judgment and not a requirement for an area to be worthy for Wilderness recommendation. Acid streams have been treated with liming from helicopters in the St Mary's Wilderness. Horseback riding is a compatible Wilderness use, and the presence of illegal OHV/ATV trails should not impact the decision about an area's capability to qualify as a Wilderness candidate. We urge the Forest Service to recommend this area as a Wilderness candidate.

Ramsey's Draft addition includes the Lynn Hollow proposed Wilderness and the Bald Ridge addition to Ramsey's Draft Wilderness which are both integral parts of the collaborative Shenandoah Mountain Proposal. In spite of the problem of mineral rights in the Lynn Hollow proposal we would like to see its recommendation in the hope that those rights might be eventually acquired by the Forest Service. Mountain bikers are also proponents of the SMP thus the issue of the biking trails is not an issue. This would be an area which the Forest Service should include in its unsuitable for timber classification.

Rich Hole addition as delineated in the maps and descriptions submitted by VWC in January of 2009 would expand the Virginia Wilderness System in a positive way. We applaud the FS

recommendation; our suggested boundaries would keep the White Tower trail open and FR 362 which is used by hunters. FR 129 and Bubbling Springs would not be impacted. We do not think the Department of Energy's wind classification should influence wilderness recommendations.

Rich Patch is a very special spot and a good area for continued protection of some sort.

Rough Mountain addition that VWC proposes is delineated in the maps submitted by VWC in January of 2009, and is a sensible way to increase the size of the Wilderness Preservation System on the GW. Capability and availability issues are negated by the Congressional designation of Rough Mountain Wilderness.

Saint Mary's Additions that VWC recommend are the west and south additions. Addition of the northern portion would close an important access road for bear hunters.

Shaw's Ridge is an area which the Virginia Wilderness Committee would like to see managed under the Roadless Rule. We are not asking for the Forest Service to recommend is for Wilderness. However, a capability assessment made on the basis of "views west toward private land" and "the area is not deeply incised to offer outstanding opportunities for physical challenge" are inappropriate and irrelevant to an area's suitability for Wilderness.

Shawvers Run Addition

Three Ridges Additions should be added to the Wilderness. It seems sensible to make additions to existing Wilderness areas whenever possible- especially when there is no reason not to do so.

Three Sisters is an excellent candidate for Wilderness recommendation, and its recommendation has been endorsed by the Rockbridge Board of Supervisors. Also, boundaries were drawn on maps submitted last January to the Forest Service which show that our proposal is bounded by the Appalachian Scenic Trail. Maintenance activities on the AT would not be impacted nor would any access roads be closed. Our proposal is not opposed by the maintaining Natural Bridge Appalachian Trail Club. The capability results narrative states that the area is "arguably large enough to allow natural processes to dominate". That is sure what happened in 1995 when the Belle Cove trail was destroyed and a portion of The Pinnacle slid into Belle Cove Branch. The position of the mountains in this area provides an ideal destination for those seeking solitude and a primitive experience. The corridor of the AT touches but a narrow portion of the top of the proposed area. An acidified stream should not disqualify a prime candidate from consideration. Neither subdivision nor amalite mine impact this proposal. Our boundary excludes the area with mineral rights, and the suitable timber and wildlife openings are not in the proposal. None of the objections in the availability narrative are applicable with our boundaries. Please strongly consider recommending Three Sisters.

Evaluation of Need for Additional Wilderness on the GWNF

We are concerned at the examination of all public lands in order to determine wilderness capacity and thus the argument is made that there is enough wilderness acreage. Wilderness acreage on the Jefferson, the Monongahela and the Shenandoah National Park is being included in the evaluation of need. If a landscape view is used for wilderness it also needs to be used to determine early successional habitat. To utilize a filter for one use is not acceptable. It does not make sense to rationalize that Wilderness in other areas somehow makes protecting this area unnecessary.

Response to Remote Recreation and Habitats Alternative

VWC applauds the Forest Service for creating the "Remote Recreation and Remote Habitat Alternative." We are glad you are recognizing the public demand for protecting the most undeveloped parts of our Forest to benefit mature forest ecology, water quality, viewsheds, remote recreationalists, etc. The inclusion of the entire Shenandoah Mountain Proposal is excellent.

The table depicting the Wilderness, NSA, and Remote Backcountry areas has many erroneous acreage numbers. Are the indicated recommendations for Wilderness, NSA, and Backcountry accurate? Also, the map is such a large scale, the area boundaries are unknown. This kind of map is likely to cause confusion and anxiety among persons who are concerned about road closures and access issues.

We suggest that the Forest Service use boundaries as defined by our wilderness recommendations. VWC works diligently with other user groups to minimize conflicts re. wilderness boundaries and access. We look forward to working with the FS to refine this alternative and/or other alternatives as the Planning process continues, hopeful that the eventual, final Plan will recognize the importance of permanent protection for more of our most outstanding Wilderness and Scenic Area candidates.

The Virginia Wilderness Committee asks that you consider our recommendations when you are creating your plan alternatives. Our recommendations are listed below:

Adam's Peak National Scenic Area as endorsed by the Rockbridge County Board of Supervisors

Archer Knob Wilderness as shown on map submitted January 2009

Big Schloss National Scenic Area with Three High Heads Wilderness as shown on maps submitted January 2009

Beech Lick Knob Wilderness as shown on map submitted January 2009

Benson Run Wilderness as shown on map submitted January 2009

Bolshers Run as shown on map submitted January 2009

Elliot Knob Wilderness as shown on map submitted January 2009

Little Allegheny Mountain Wilderness as shown on map submitted January 2009

North Massanutten National Recreation Area as described in comments above

Oliver Mountain Wilderness as on map submitted January 2009

Paddy Lick Wilderness as on map submitted January 2009

Rich Hole Wilderness addition as on map submitted January 2009

Rough Mountain Wilderness addition as on map submitted January 2009

St. Marys Wilderness additions West and South as on map submitted January 2009

Three Ridges Wilderness additions as on maps submitted January 2009

Three Sisters Wilderness as on map submitted January 2009

Toms Knob/Potts Mountain Wilderness as on map submitted January 2009

Whites Peak Wilderness as endorsed by Rockbridge County Board of Supervisors

I would like to reiterate that the Virginia Wilderness Committee has worked hard to acknowledge established uses in both its selection of candidates and in its careful suggestion of boundaries. We will continue our efforts of cooperation and collaboration in our work for increased forest protections.

Sincerely,

Laura Neale

President, Virginia Wilderness Committee

Industrial Wind Development

A Position Paper from the Virginia Wilderness Committee

The Virginia Wilderness Committee recognizes that the increasing consumption of energy by our society makes a major contribution to climate change. Energy conservation and the introduction of new sources of energy that do not require the burning of fossil fuels are two approaches that promise to mitigate this problem.

We recognize that the development of industrial wind energy in appropriate places can be a useful source of clean energy. However we must be careful that the hasty push for such energy does not lead to the destruction of the very values that we seek to preserve. The National Forests provide Virginia with our greatest reservoir of habitats for the plants and animals that we hope to protect from the ravages of climate change.

The development of industrial wind towers on the principal ridges of the Blue Ridge and Allegheny Mountains is truly a nightmare scenario. Each ridge would be clear-cut for miles in a strip that would be as wide as the length of a football field. Habitats for the more northerly species, the very ones that we wish to protect from global warming, would be destroyed or fragmented. Migrating birds, many now in severe decline, in part as a result of climate change, would be required to run the gauntlet of tower after tower past hundreds of these whirling machines as the migrants pass to and from their nesting and wintering grounds. Endangered species of bats, hunting insects attracted to the towers, would fall prey as well. All this for a modest increment of energy.

The U. S. Forest Service is required by law and custom to protect the resources entrusted to their care. We therefore request and require that the Forest Service reject the misguided attempt to establish industrial wind towers on the lands of the George Washington and Jefferson National Forest.

May 6, 2010

Comments on Land and Resource Management Planning for the George Washington and Jefferson National Forest:

I am writing on behalf of the Scenic 340 Project, Inc., a community group seeking to preserve and protect the historic, cultural, and scenic rural character of Virginia's Page and Warren Counties. Our main focus has been on the Page Valley which lies between the Shenandoah National Park and George Washington National Forest.

The national forest is a wonderful asset to the people who reside in our area as well as to those who visit here to enjoy our beautiful landscapes and learn about our colorful history. Tourism continues to be one of our most important economic engines. Our national forest provides so much for so many – hiking and biking trails, hunting, fishing, scenic beauty, historic sites, fresh water to our communities, and much more. It is the reason many of us chose to live here. We certainly do not want to do anything to spoil this special place.

As you move ahead with your planning we have three primary concerns that overlap. One, we need to assure that the water sources for our communities are not disturbed by runoff from large scale logging, from energy development, from road building. Our population is growing. If our sources of clean water are lost, our communities cannot survive. Much of our drinking water comes from the National Forest. We hope the Forest Service will work with the local communities to insure that any development undertaken is done in such a way that our drinking water source in not compromised.

Two, while new local energy sources like wind energy are important, we cannot destroy the many benefits the forest now provides to focus on one purpose. National Forests must continue to provide the wide range of benefits to our citizens. As a result all projects must strive to protect current National Forest assets in any new venture undertaken. Industrial-scale wind energy facilities are just that, large industries. As such they require major road development carrying heavy-duty trucks to build and maintain infrastructure. These actions will endanger the water supplies we depend on. The wind turbines require huge concrete foundations. The giant blades are noisy dangerous to bats and birds. All these features lead to wildlife habitat destruction and prohibit the use of those areas for other current forest uses. The large turbines also mar our landscape. They will be seen from many miles away and could ruin the views from overlooks in the nearby Shenandoah National Park. Industrial-scale wind farms are incompatible with our national forest.

Third, potential drilling for gas in the areas of Marcellus Shale is another grave concern. We have seen the damage the drilling has caused to water supplies in Pennsylvania. We do not want that to happen here. The drilling also has many of the same characteristics as the wind farms. The infrastructure required to drill and maintain drill sites will destroy our wild areas, our wildlife, and our recreation areas. Further destruction will be caused by the pipelines needed to carry the gas to refineries. These pipelines will subdivide the landscape destroying habitat and isolating species. Again we believe that drilling for gas in our George Washington and Jefferson National Forest is incompatible with our use and enjoyment of the forest.

Sincerely

Frederick Andreae
President, Scenic 340 Project, Inc.
P.O. Box 340
Bentonville, VA 22610

May 10, 2010

Mr. Ken Landgraf
George Washington & Jefferson National Forests
5162 Valleypointe Parkway
Roanoke, VA 24019

Dear Mr. Landgraf,

-Forward

Mountain Bicycling has been a very popular activity on the trails of the George Washington National Forest for over 25 years. Bicycling on the trails of the GW dates all the back to the 50's as many locals tell stories of large adventures on skinny bicycle tires long past.

Over 100 bicycle trail events have drawn more than 50,000 participants to the GW over the last decade. These include the Massanutten Hoo Ha! and Yee Ha!, The Shenandoah Mountain 100, Shenandoah Mountain Bike Festival, IMBA Virginia Festival and many Virginia Series events.

There are six IMBA cycling clubs involved in organizing events and trail maintenance on the GW. Each year over 3,000 volunteer trail work hours have been contributed by bicycle clubs including the Shenandoah Valley Bicycle Coalition's roadside cleanup that removes over 2,000 lbs of trash from the GW annually.

Tourism from visitors that come to ride their bicycles on trails in the GW provides significant economic benefit to nearby communities. Over 1 million is spent annually on bicycling in the GW. Much of this is spent in local bike shops, outdoor stores, and on lodging/restaurants in the Shenandoah Valley.

- Economic data created by Chris Scott

George Washington National Forest Comments from Chris Scott

I would like to thank the GWNF staff for recognizing how trails contribute to the local economy. Transitioning from a destination trail to a loop trail based system will further enhance the area.

Knowing that fractured user-groups place undue stress on the panning process, I have been working with all GWNF interest groups to craft a solution that will adequately balance continued access with management and resource protection in the GWNF. These users, including: hunters,

hikers, equestrians, bicyclists, fishermen, naturalists, OHV riders, cross country skiers, ATV riders, runners, and wildlife managers have all been working in coordination.

As study after study has shown, bicycling has a similar impact to trails and roads as hiking and bicycling on trails and roads in the George Washington National Forest is wholly compatible with watershed and resource protection. "The environmental degradation caused by mountain biking is generally equivalent or less than that caused by hiking, and both are substantially less impacting than horse or motorized activities. In the small number of studies that included direct comparisons of the environmental effects of different recreational activities, mountain biking was found to have an impact that is less than or comparable to hiking. For example, Marion and Olive (2006) reported less soil loss on mountain bike trails than on hiking trails, which in turn exhibited substantially less soil loss than did horse and ATV trails. Similarly, two wildlife studies reported no difference in wildlife disturbance between hikers and mountain bikers (Taylor & Knight 2003, Gander & Ingold 1997), while two other studies found that mountain bikers caused less disturbance (Papouchis and others. 2001, Spahr 1990)." Marion and Wimpey 2007

Bicycles have proven to be a compatible activity on every trail or road that is open to their use in the GWNF. I thank you for not restricting bicycle access with Wilderness Area designations. As the use of trails on the GWNF increases, bicyclists are open to discussing a variety of management plans to ensure user safety in the backcountry and we feel strongly that GWNF staff should be allowed to manage the land without being hamstrung by well-meaning, but burdensome regulations and statute changes.

I support the creation of new Wilderness areas when the designation is appropriate. I support the following lands to be including into the wilderness preservation system: Laurel Fork, Ramsey's Draft addition, Skidmore Fork Southeast of High Knob and part of the Little River as illustrated in the Friends of Shenandoah Mountain Agreement. Laurel Fork and the Little River areas are currently protected by the 93 GW plan as Management Area 21 – Special Management Area.

I support the following lands to be designated as a National Scenic Area: Big Schloss, Kelly Mountain and the rest of the Little River Roadless Area protected as outlined by the Friends of Shenandoah Mountain Proposal. This will result in permanent congressional protection for these 4 special areas; Laurel Fork, Big Schloss, Little River and Mt. Pleasant, that were protected by the 93 GWNF plan as Area 21's.

I support forest management where management is historically occurring, while protecting remote backcountry highlands from industrial disturbances. I am confident that the GWNF can allow all current forms of non- motorized recreation on trail systems and accomplish this backcountry protection.

In addition I support the following lands, that were listed in the GW 93 plans area #9 - Remote Backcountry, having their designation changed to Area 21- Special Management Area: Elliott's Knob Roadless Area, Crawford Mountain Roadless Area, Jerkemtight Roadless Area. The new designation for these areas will be 12D.

Please note that the first listing of a Roadless Area or PWA is what the GW Planning Team has listing in their Potential Wilderness Area capability and availability review. Chris Scott has

commented on each section and designated whether he thinks bicycling has been represented "adequately", or where bicycling "needs more mention or representation". A few areas don't receive use by bicyclists' and are indicated as such. Below each USFS mention is a repeat listing of each PWA. This section is a review /recap of the bicycling that has been happening in each PWA by Chris Scott. This review was made before the USFS came out with their capability and availability review.

ADAMS PEAK (8,226 acres) – Adequate MTB Representation

Capability: This area meets the minimum requirements for size and opportunities for remoteness. It has a relatively small core of 4,000 acres of semi-primitive area.

Availability: There are two TESLR species that would benefit from management activities. There is heavy mountain bike use on Whetstone Ridge Trail. More than half of the boundary interfaces with private land.

Adams Peak PWA – contains the ever popular #523 Whetstone Ridge Trail. The Charlottesville Area Mountain Bike Club and SVBC members have been maintaining #523 Whetstone Ridge Trail with mechanized equipment for 5 years. CAMBC has been having annual club rides on this trail since 2002. They loop the trail ride together with SR. 603 Irish Creek Rd. Prior to that #523 had been utilized for recreational events under a special use permits in multiple editions of Odyssey Adventure Racing's "Mega Dose"

ARCHER KNOB (7,110 acres) – Adequate MTB Representation

Capability: This area meets minimum requirements for size. It's core of semi-primitive is relatively small at 4,440 acres. There are opportunities within this area for primitive recreation and solitude.

Availability: Two TESLR species could benefit from management activities. The North Mountain Trail is popular with mountain bikers. About 1,322 acres are suitable for timber production and the area contains 1,734 acres of pine species that benefit from prescribed burning.

Archer Knob PWA – #443 Great North Mountain Trail and FR. 406 receive use from Staunton bicyclists looking for a less difficult loop trail on a route that is closed to motor vehicles so they can take their dogs. This trail is also used for the SVBC Stokesville – Douthat – Stokesville ride (S-D-S).

BEARDS MOUNTAIN (10,152 acres) – Adequate MTB Representation – SVBC maintains Beards

Capability: While this is a moderately large area, the shape and location are poor for providing Wilderness qualities. The area is narrow and located along a mountainside with views to exterior private lands, many with developments such as cabins, camps, houses and farms. Close proximity to Douthat State Park with a connector trail into Wilderness may result in unacceptably high levels of user

interaction that diminish the mental challenge and need to rely on one's own primitive recreation skills and abilities.

Availability: There are shale barren species, at least one of which is a TESLR, that benefit from management including prescribed burning. There are over 1,400 acres of pine species that also benefit from fire, and over 1,300 acres are suitable for timber production. The Beards Mountain Trail is used by mountain bikers coming out of Douthat State Park.

Beards Mountain PWA – #459 Beards Mountain, #459A Beards Mountain Spur, and #638 Gilliam Run Trails are challenging bicycle trails .#459 has been maintained by SVBC with chainsaws and brushers for the annual S-D-S ride since 2001. It is a fabulous trail when ridden from Douthat State Park North to the swinging bridge over the Cow pasture River. The views for the ridge over to Rough Mountain Wilderness and to the Cow pasture River below are uniquely beautiful. We would like to develope a route that heads back up to Douthat along the Claylick Draft drainage to Beards Gap.

BEECH LICK (14,087 acres) – adequate MTB Representation (bicyclists are helping build Carr Mountain Trail)

Availability: Beech Lick is a large area with shape, size and topography that provides outstanding opportunities for solitude and physical challenge as well as for natural processes to dominate within the area. There is a large unbroken core of nearly 9,500 acres of semi-primitive ROS class. There are no current recreational uses that are incompatible with Wilderness.

Availability: About 1,158 acres have private sub-surface mineral rights. This area is near the western boundary and could be excluded. Plans have been approved and NEPA analysis completed for construction of a segment of the Great Eastern Trail in the western portion of this PWA. The Great Eastern Trail is intended for use by mountain bikers, equestrians and hikers. Beech Lick is currently suitable for wildlife habitat and timber management with past investments made for both of these resources. Almost 5,600 acres of this PWA is suitable for timber production primarily in the eastern

portion. There are almost 1,300 acres of pine species that benefit from prescribed fires. An estimated 75-80% of the boundary is adjacent to private land.

Beech Lick Knob PWA – Bicyclists support the building of the Carr Mountain Trail and are excited to make this part of the long distance shared use section of the Great Eastern Trail.

Pictured Great Eastern Trail connector that would go through two private property parcels if agreement could be reached

BIG SCHLOSS (28,347) - Needs more MTB rep – Little Stony and Mill Mtn. Trail

Capability: This is a huge PWA with a semi-primitive core of almost 20,000 acres. There are outstanding opportunities in the interior for primitive recreation and physical challenge. However, the dense system

of existing, popular trails results in a high number of encounters with other users, diminishing or eliminating the opportunity for remoteness and relying on one's own skills and abilities. The odd overall configuration of the PWA along with a high percentage of the boundary being adjacent to private lands are not conducive to the area's capability to provide outstanding scenic qualities.

Availability: There are 7,118 acres of privately owned sub-surface mineral rights. There is a private inholding near the east boundary. Almost 5,550 acres are suitable for timber production. There have been investments in wildlife habitat (openings and prescribed fire). The Wood turtle exists in the area and some habitat management might be needed. Due to acidification, Little Stony Creek is limed. West Virginia has the Cove Deer Management Area. Multiple trails exist throughout the area and some are popular with mountain bikers.

Big Schloss PWA – #1004 Mill Mountain, #1004A Big Schloss, #415 Big Schloss Cut-off, #398 Little Sluice and #571 Stony Run, #1029 Capon, #1003A Halfmoon Lookout, #1003 Halfmoon, #1030A Bucktail Connector, #1037 Old Mailpath, #1038 German Wilson, #414 Sulphur Springs Gap, #1013.1 Tuscarora Tree Ponds, #1013.2 Tuscarora Pond Run, #405.4 Tuscarora Little North Mtn, #514 White Rock, 573 Cedar Creek, #411 Bread Road, The trails in this special management area some of the most popular bicycles trails on the Lee District. Mill Mountain Trail requires brush cutting by gas powered brushers very often to remain passable. #1004 is the route for the proposed Great Eastern Shared Use Trail and it is used in the Big Schloss 50K trail run annually.

Re-route for Little Stony Creek pictured below –

Connector picture for just south of Big Schloss PWA

CRAWFORD KNOB (14,851 acres) - Needs more MTB rep – MTB's want to develop trails here

Capability: This area has the substantial size and compact for natural processes to dominate the landscape. The semi-primitive core is about 11,830 acres in size. The area is essentially a mountain offering many external views to non-Wilderness Forest Service lands and to private lands, although drainages offer interior views and remoteness. Opportunities exist for primitive recreation and physical challenge.

Availability: There is a ridgetop private inholding in southeast portion of the area. It is not very near a boundary, so it would remove a large area to exclude it without cherry-stemming. There are multiple trails in southern portion of the area, some used by mountain bikers. There are views to Staunton and a powerline on the north side. About 3,800 acres are suitable for timber and there has been active management such as timber harvesting and prescribed burning.

Crawford Knob PWA – Crawford Knob Roadless Area contains #489 Chimney Hollow, #485 Crawford Mountain, and #487 Crawford Knob Trails. Crawford Mountain Trail North of Crawford Knob Trail has

been removed from the system because of lack of access at the bottom. We need this to be re-routed around the private property and re-opened. This can be connected to FR. 300 and that needs to connect the bottom of Chimney Hollow to create a loop trail. Crawford Mountain Trail South of Chimney Hollow needs to be relocated because the existing fire-break route is not a desirable grade. This trail system is the closest trail system to Staunton and is heavily used by CAMBC.

Crawford Knob Trail system pictured below –

DOLLY ANN (9,542) - Needs more MTB rep – part of Alleghany Highlands Trail System

Capability: This is a moderately sized PWA with a core of 5,850 acres of semi-primitive land. There are opportunities for interior views and remoteness, but most of the area consists of mountaintop area with external views to private. The northern portion of the area is very narrow. The overall size and configuration are not ideal for ecological processes to dominate. There are sights and sounds of the interstate and U.S. highways located on three sides. The prevailing winds often carry a reminder that the paper mill in Covington is nearby.

Dolly Ann PWA – # 471 Dry Run Trail and #___ Peters Ridge trail along with the new connectors that go over to the Dolly Anne Road are positioned to be great bicycle trails as part of the Alleghany Highlands Multiple Use Trail System. The proposed alignment along the crest of Peters Ridge should be changed and so that it is a side hill contour alignment between the Ridge and Dry Run below. This would be a more sustainable alignment. The current proposed alignment is a very nice bulldozed firebreak line that should be kept open for hunters.

DUNCAN KNOB (5,973) – Adequate MTB Representation

Capability: This area meets minimum requirements for size. It's core of semi-primitive is small at 3,232 acres. It is comprised of a steep mountaintop with knobs, primarily with views outside of the Wilderness. The entire east boundary is adjacent to private land. The area is not large or wide enough for natural processes to dominate.

Availability: One sensitive species exists in the area and it benefits from active management. Three trails exist within this area and all are used by mountain bikers, including technical trails. Maintenance is performed by volunteers.

Duncan Knob PWA - #410 Massanutten Connector, #408 Massanutten Mountain, #555 Scothorn Gap and #409 Gap Creek are used by cyclists and in special events.

ELLIOTT KNOB (11,070 acres) - Needs more MTB rep

Capability: This is a moderately large PWA with a semi-primitive area of about 7,100 acres. It is very rugged and offers great opportunities for remoteness and challenge. It is marginally large enough for ecological processes to dominate. There is very little boundary adjacent to private land.

Availability: There are three TESLR or FS sensitive species that benefit from active management. There is also the Smooth green snake that requires open grassy areas. There are multiple roads as well as some mountain biking trails within the area. There is a trout stocked stream popular with anglers. Active management has occurred around the west, north and northeast perimeter and 3,468 acres are suitable for timber management. There are multiple access opportunities on roads and trails used by visitors engaging in activities that are not allowed in Wilderness.

Elliott Knob PWA – # 443 Great North Mountain, #667 Falls Hollow and #445 Cold Springs are good bicycle trails. Great North Mountain Trail # 443 is used in the S-D-S route and SVBC annual club rides with #667. The SVBC has been doing trail work on # 443 since the mid 90's. Trail # 443 receives annual mechanized clearing to the north and south of Elliotts Knob. The Grindstone 100 running event also uses these trails.

Elliotts Knob front country connector trails pictured below –

GALFORD GAP (6,689 acres)

Capability: This meets the minimum size requirements for Wilderness and has a core of 4,920 acres of semi-primitive land. The area is oddly configured, long and narrow. It consists of mostly mountainside and mountaintop high elevation views to exterior private lands. Approximately 80% of the boundary is adjacent to private. Due to size and primarily due to shape and configuration, this area does not provide a great opportunity for ecological processes to dominate.

Availability: There was active timber and prescribed burning activies from 1993 to 2000 and it is nearing time to return to these areas. About 4,467 acres are suitable for timber management.

Galford Gap PWA does not have bicycle use on trails.

GUM RUN (14,547) - Needs more MTB rep – we are looking at developing this area with Harrisonburg City path along Dry River that will connect to developed trail area

Capability: Despite it's relatively large size, the semi-primitive area consists of only about 6,700 acres. The shape of this area, small percentage of boundary adjacent to private, and rugged terrain with large interior drainages provide good opportunities for remoteness and primitive recreation. The area is arguably large enough for ecological processes to dominate.

Availability: There are 2,529 acres with private sub-surface mineral rights across the north portion of the PWA. There is one small private inholding with a cabin near the south boundary. There are acidified streams in the area that would benefit from liming; there are approximately 24 miles of native brook

trout streams. There is a mountain bike trail on Chestnut Ridge. There are 2.2 miles of open road currently providing public access into the interior of the area.

Gum Run PWA- Chesnut Ridge Trail and proposed Singletrack system below

Pictured below is Dry Run singletrack with Harrisonburg City Property greenway along Rt. 33

Connect Harrisonburg City Property corridor along Rt. 33 from Riven Rock Park to Skidmore Fork Dam and along to Rt. 33 via Railroad Hollow to High Knob for non motorized access.

Greenway totals 13 miles from Riven Rock to Skidmore Fork Dam to High Knob
- Riven Rock to Dry Run 5 miles with 250 ft. elevation gain
- Dry Run to Skidmore Fork Dam 3 miles 380 ft. elevation gain

Dry Run singletrack system 25 miles connects to Chestnut Ridge Trail and Flagpole Knob
- East loop - 7.5 miles 2,300 ft. gain
- South loop - 9 miles 1,000 ft. gain, 2,000 ft. loss
- East Center loop – 4.25 miles 500 ft. loss
- North Center loop – 4.25 miles 250 ft. loss

Please note - This incorporates Friends of Shenandoah Mountain Proposal's Railroad Hollow Trail as a 5 mile natural surface Greenway extension. This creates a 13 mile recreational corridor.

HIGH KNOB (18,447 acres) - Needs more MTB rep – great eastern trail and SMT – FOSM have agreed on eastern slope to be Wilderness with addition of trail at north east edge

Capability: This large PWA has a core area of 11,760 acres of semi-primitive lands. The area consists of mountainsides with views to external areas, although the deep, rugged drainages do offer opportunities for solitude and physical challenge. The area is large enough for ecological processes to dominate. This PWA has a sizeable cherry stem around the Skidmore Fork Road on the east. In the northwest portion of the area, Brandywine Lake Recreation Area and a block of private land jut into the PWA, creating an oddly shaped boundary.

Availability: There are two TESLR or FS sensitive species in the area that benefit from active management. There has been a lot of wildlife management activities (about 15 openings) as well as a large prescribed burn. About half of this area is in West Virginia, and the Department of Natural Resources has strong reservations about Wilderness designation. About 4,300 acres are suitable for timber management. Shenandoah Mountain Trail, used by mountain bikers, traverses the ridge of the mountain through the middle of this PWA.

High Knob PWA - Shenandoah Mountain Trail #1047, Miller Run # 1022, Sugar Run #1025, Bother Ridge 1026, Saw Mill #1035, High Knob #1021, Railroad Hollow. We support the lands known as Skidmore Fork East of #447 and south of Railroad Hollow to be designated as Wilderness as stated in the FSM.

JERKEMTIGHT (27,314 acres) – Adequate MTB Representation- will mention more MTB connector trails

Capability: This is the third largest PWA in the assessment. It has a huge core of 15,840 acres of semi-primitive land. It is rugged with multiple ridges and twisting drainages, offering excellent opportunities for remote recreation and physical challenge. The area is large enough for ecological processes to dominate. The shape is odd with multiple corners and curves along the boundary, many of them plunging deeply into the PWA. However, a very small percent of the boundary is adjacent to private land.

Availability: There are six TESLR or FS sensitive species within the area that benefit from human intervention. The 1,280 acre Special Biological Area on the south end requires prescribed burning. There are 2,617 acres of private subsurface mineral rights in three blocks from roughly the center of the PWA up to the northwest portion. To exclude these would require reducing the size of the PWA by nearly half. There are two National IMBA mountain bike trails within the area. There have been significant investments in timber and wildlife projects dating 1993 to 2000.

Jerkemtight PWA - #447 Shenandoah Mountain Trail, #111 Benson Run, #393 Nelson Draft, and #547 Marshall Draft Trail. Shenandoah Mountain Trail #447 is officially maintained by Shenandoah Mountain Touring, LLC. This trail has been designated by IMBA as an Epic Ride. This has contributed to the popularity of this trail amongst cyclists. #447 is also poised to be included as part of the Great Eastern Shared Use Trail. Jerkemtight Road #399 has been removed from the system road inventory. This should be reopened as a non-motorized trail. The steep creek banks at the creek crossings are the reason it is not capable of remaining a system road. We would also like to connect Hughart Run to FR 393 staying above the private property (appendix HR393ConnectSMT). FR173E should be reconnected with FR173.2 and opened as a system trail. Currently this middle section of Benson Run gets used and it should be a system trail so users could loop back on the west side of Shenandoah Mountain using FR 394. #447 is used in the S – D – S annual ride, the Virginia IMBA Festival and is maintained with mechanized equipment.

KELLEY MOUNTAIN (12,892 acres) - Needs more MTB rep very popular bicycle area has hosted multiple IMBA Wild Rides- FOSM Scenic Area proposed

Capability: This moderately large area has a core of about 7,300 acres of semi-primitive land. In conjunction with the existing Saint Mary's Wilderness and Saint Mary's Wilderness Addition North, this could establish a large area of Wilderness. Within this area there are multiple ridges and valleys providing good opportunities for remoteness and physical challenge, with most views being to the interior of the area. This PWA, with its topography and natural features, can be dominated by ecological processes. There is a large, wide cherry stem on Turkey Pen Ridge, which is not a desirable quality in a Wilderness boundary.

Availability: There are three large blocks of private sub-surface mineral rights totaling 2,126 acres along the northern portion of the area. There are three TESLR or FS sensitive species that exist in the area that

benefit from habitat management activities. There are several trails running parallel to each other spread across the area, one of which is accessed by a road that penetrates deeply into the interior. An OHV road separates Kelley Mountain from Saint Mary's Wilderness. There has been significant past investments in wildlife habitat improvements.

Kelly Mountain PWA – # 480 White Rocks Gap, # 480A Slacks Overlook, # 518 Mills Creek, # 507 Torry Ridge, # 479 Kennedy Ridge are maintained and ridden regularly by CAMBC. Special events both running and cycling occur annually in the Kelly Mountain area.

LAUREL FORK (10,236 acres) – FOSM Wilderness Area proposed

Capability: This moderately sized PWA has a core semi-primitive area of about 6,700 acres. The PWA is located in a fairly isolated area. The terrain within the PWA allow for opportunities for remoteness and physical challenge. The area is biologically unique on the GWNF and is the southernmost range for some northern species. There is a concern that climate change will result in these northern species migrating to the north and out of the area. There are large plantations of red pine and spruce. The area is marginally large enough for ecological processes to dominate.

Availability: The area has multiple trails, many used by mountain bikers. This area is the southernmost range for some of the northern animal species found in this area, and some may benefit from management activities, particularly as more is learned about the effects on them of global warming . It is important to keep management options open to maintain these species in this area.

Laurel Fork PWA – Cycling use is low in this potential wilderness area. Given the unique biology we believe support this being designated as a Wilderness area in accordance with the Friends of Shenandoah Mountain Proposal.

LITTLE ALLEGHANY (15,395 acres)- not much beta on this one – WV boundary

Capability: This PWA has about 8,780 acres of semi-primitive which is oddly shaped and protruding down each "leg" of this PWA. The area is rugged and does provide opportunities for remote, primitive recreation. The odd configuration impedes the area's ability to have ecological processes dominate the landscape. Almost the entire boundary of this area is adjacent to private land.

Availability: There are two TESLR or FS sensitive species that are enhanced by active management. There are private sub-surface mineral rights on 374 acres. While this is not a large amount, due to its location, the entire southeast "leg" would need to be excluded. Approximately 5,621 acres are suitable for timber management.

Little Alleghany PWA – Cycling use is low in this potential wilderness area. We would like to see routes that may be created in this area for the Great Eastern Trail to be open to bicycles.

LITTLE MARE MOUNTAIN (11,918 acres) – Adequate MTB Representation

Capability: Less than half of this area, a total of about 5,000 acres, is in the semi-primitive ROS class and it is pushed toward the northern half. The narrow panhandle on the south portion has steep topography, but it is along a mountainside with external views to private. The larger block at the north end offers opportunities for remoteness, but the topography is not as rugged for offering physical challenges. The oddly shaped area is not conducive to allowing ecological processes to dominate the landscape. Close proximity to Douthat State Park with connector trails into the area may result in unacceptably high levels of user interaction for a quality Wilderness experience.

Availability: There is one TESLR or FS sensitive species that is enhanced by management activity. The Nature Conservancy opposes Wilderness as they work with the State in controlled burning projects outside of the western boundary. There are existing and planned mountain bike and equestrian trails in the area. More than half of the area is suitable for timber production and there have been active management activities within the area.

Little Mare Mountain PWA – # 714 Little Mare Mountain, # 456 Brushy Ridge, #620 Salt Pond Ridge, # 637 Sandy Gap, and # 461 Lick Block Trail are used frequently by bicyclists. #714 and #456 are used in the Annual S-D-S ride and #456 and #620 are used in the Middle Mountain Momma bicycle race. #714 along the crest of Little Mare Mountain has needed to be brushed and cleared with mechanized equipment for the last 10 years because of massive mortality of trees from the gypsy months. The dead trees keep falling across the trails and the undergrowth of saplings and thorns has made the trail impossible to follow just 2 years after a thorough clearing. All of these trails are maintained by mechanized equipment.

LITTLE RIVER (30,227 acres) – Adequate MTB Representation – FOSM support 10,000+ acres for WA - includes loss of trails use to bicycles

Capability: is the largest area in the inventory and possibly the largest block of land to meet potential Wilderness criteria in the east. It has a huge core of about 20,500 acres of semi-primitive ROS class that offers significant opportunities for isolation, primitive recreation and physical challenge. This is the largest PWA; and with its proximity to existing Ramsey's Draft Wilderness, offers a significant opportunity on the GWNF to provide adjacent Wildernesses that cumulatively are a substantial size.

Availability: Five TESLR species are found within the area that benefit from human intervention or disturbance. There are over 3,100 acres of private sub-surface mineral rights. There is a long, narrow inholding with a cabin near the north boundary; it can be excluded. A network of popular trails is found within the area that offer outstanding mountain biking opportunities. The area is very popular with bear hunters.

Little River PWA– One of the most popular riding areas on the GW because of the proximity to Harrisonburg and the Stokesville Campground which is used primarily to host cycling events such as the Virginia IMBA Festival, Shenandoah Mountain 100 and the Shenandoah Mountain Bike Festival. The below map shows the trails that we wish to include in Phase 2 of the SVBC GW trail enhancement program. Below trail routes may be adjusted to not interfere with Friends of Shenandoah Mountain Proposal boundaries.

MASSANUTTEN NORTH (16,530 acres)- Adequate MTB Representation

Capability: This area contains about 11,150 acres of semi-primitive land, but it is in a linear strip along a mountainside with views to the exterior private land. Almost the entire boundary of this PWA is adjacent to private lands, much of which has been developed with farms, residential areas, cabins, etc. The area is too narrow to provide outstanding opportunities for remote and physically challenging recreation. The area is too narrow to allow ecological processes to dominate the landscape.

Availability: There are reserved sub-surface mineral rights in five blocks totaling 1,465 acres. Two of these blocks stretch from boundary to boundary at the center of the area and at the north end of the area. To exclude them would mean reducing the area by half its size. The area contains premiere technical mountain biking trails maintained by volunteers. There is one TESLR or FS sensitive species that may benefit from active management.

Massanutten North PWA - #458 Stephens, #408A Kennedy Peak, #408 Massanutten Mtn NRT, #559 Habron Gap, #567 Indian Grave Ridge, #560 Milford Gap, #560A Tolliver, #405.1 Tuscarora Veech Gap, #484 Veech Gap, #403 Sherman Gap, #406 Shawl Gap, #463 Botts, and #404 Buzzard Rock trails are all very technical bicycle trails. The segment of the cycling community that thrives on these trail challenges is a very passionate group of cyclists, similar to the trail builder who is master of stone pitching. These cyclists only find this sort of irreplaceable challenging terrain only in this area, cyclists come from miles around to try these trails. The SVBC does an annual ride the length of this trail system from Stephen's trail to Buzzard Rocks. The Virginia Happy Trails running club holds their annual Massanutten Mountain 100 trail run on these trails too.

Menneka Peak connector pictured below provides for winter route with no stream crossings

Massanutten South PWA – #580 Second Mountain, #416 Massanutten Mountain South, #416B Bird Knob, #419 Fridley Gap, #579 Martins Bottom , #582 Roaring Run and, #583 Morgan Run Trail are ridden regularly and maintained yearly by SVBC. Trail #580, #419, #579 are used in the Massanutten Hoo Ha! Bicycle event. Bird Knob is a very technical trail that offers a unique trail experience for the technically advanced rider.

OAK KNOB-HONE QUARRY RIDGE (16,343 acres) – Adequate MTB Representation

Capability: This large PWA offers a core semi-primitive area of about 8,800 acres. There are excellent opportunities for remoteness and primitive recreation that is physically challenging. The area is of a size

and shape that ecological processes can dominate the landscape. There is an undesirable cherry stem for the Hone Quarry recreation area. A roadbed through the area evidences past human activities.

Availability: There are reserved sub-surface mineral rights on 617 acres near the east boundary. It can be excluded; however it is on a ridgetop and any exploration or production activities may be visible from within the PWA. Some exploration occurred in the 1980's. There is one TESLR or FS sensitive species that would benefit from active management. Mountain bike trails exist throughout the area. There is a rock climbing area with permanent anchors. The area provides access for bear hunters. There are 5.7 miles of open or seasonally open roads in the area. There have been multiple prescribed fires between 1979 and 1999, encompassing about 35-40% of the area. About 882 acres are suitable for timber management.

Oak Knob-Hone Quarry PWA – #544 Mud Pond, #544A Blueberry, #428 Meadow Knob, #429 Cliff Trail, #428A Slate Springs, and #490 Maple Springs make good bicycle routes. #544 and #544A are ridden frequently by students at James Madison University.

We want to connect the #429 Cliff Trail with the top of the Hidden Rocks Trail and have that connect over to Mud Pond Trail and onto Prospect Knob so we can continue to tie together the front range and create a better low country trail user interface. Also needed is a contour aligned trail from Flagpole Knob into Hone Quarry.

Connection from Flagpole Knob into Hone Quarry

OLIVER MOUNTAIN (13,049 acres) – Adequate MTB Representation-more potential for trail use

Capability: This area has a semi-primitive core of about 9,200 acres, most of that situated to the west away from Lake Moomaw. While that is positive for escaping the sounds of motorized ski boats and personal watercraft, this portion of the PWA is surrounded by private land with many views to the exterior rather than to the interior. The topography is not rugged; it rates fairly low for providing physical and mental challenge. The area is marginally capable of allowing natural processes to dominate.

Availability: There are four TESLR or FS sensitive species within the area that would benefit from management activity, particular shale barren species. A road used by four-wheel-drive enthusiasts runs along Hughes Draft. There are multiple trails in the area used by mountain bikes, although some are not system trails and use of those is not authorized.

Oliver Mountain PWA – contains #469 Oliver Mountain, # 469A Jackson (illegal use entering here), #488 Brushy Lick Loop, #510 Meeden Hollow, Hughes Run OHV access road, and the unofficial trail running

along Oliver Mountain to Straight Run on the Southeastern corner of the mountain. Trail #469 is used by local bicyclists Chris Caul and is a great candidate for more use to promote tourism.

PADDY KNOB (5,987 acres)

Capability: This area has a small core of 3,300 acres of semi-primitive land; however the area is deeply incised and can offer physical challenge. The area is small for allowing ecological processes to dominate.

Availability: The area has been actively managed to provide outstanding habitat for the Mourning warbler that requires a fire cycle. The very hot prescribed fire of the late 1990's also released a large component of American chestnut. The area has been actively managed for timber, with 2,149 acres currently being suitable for timber production.

Paddy Knob PWA - #636 Paddy Knob Trail makes a wonderful bicycle loop when used with Rt. 600, 84 and 55.
Pictured below is Three High Heads connector

POTTS MOUNTAIN (7,863 acres) – more MTB rep- very good trails on Southwest section, need to make sure Potts Arm and Cove trails are not included in this area.

Capability: This area has a core of about 4,500 acres of semi-primitive land. The PWA is situated on the side of a mountain with many exterior views. This mountainside is not deeply incised with steep, twisting drainages to offer physical and mental challenge. There are some moderate drainages along the lower slopes of the southwest portion. The area The northern part of the PWA is very oddly shaped around private lands that jut into the north boundary.

Availability: There are 91 acres of private subsurface mineral rights land jutting into the center of the area from the southern boundary. To exclude it would nearly divide the area in half. A very popular jeep road exists along the south boundary between Potts Mountain and existing Barbours Creek Wilderness. A large area of private land that juts into the north boundary contains several houses and a road. Over half of the area, 4,143 acres, is suitable for timber production although there have not been any activities in the area since prior to 1993. There are about 190 acres of pine species that would benefit from prescribed burning.

Potts Mountain PWA- #628 Childrens Forest Horse Trail is used by Bicyclists at the camp.

RAMSEY'S DRAFT ADDITION (19,072 acres) – FOSM WA expansion – will open center trail in area to bikes and make WA on either side

Capability: This PWA offers the largest addition to an existing Wilderness, collectively offering a significant area with outstanding opportunities for primitive recreation, remoteness, physical and mental challenge, and for natural processes to dominate. It meets the GWNF goal of establishing a large block of Wilderness in the east that can enhance the NWPS.

Availability: The west side of this PWA is almost entirely underlain by privately owned minerals. The southern portion of the area contains popular mountain biking trails. The eastern portion of the PWA has 4,753 acres of land suitable for timber production. Timber and some wildlife habitat projects have occurred in the past. The North River Road is within the floodplain and should be relocated which would put it inside the northern boundary of this PWA.

Augusta County Board of Supervisors passed a resolution opposing any additional designation of Wilderness in Augusta County.

Ramsey's Draft Addition – # 442 Bridge Hollow, #448 Road Hollow, and #442 High Knob and #496 Bald Ridge Trail Southeast of The Peak. #447 Shenandoah Mountain Trail should be removed from the Ramsey's Draft Wilderness Area when the boundary is modified from the county line and repositioned a manageable distance off of the center of the trail.

RICH HOLE ADDITION (12,165 acres) - Needs more MTB rep -Trail 466 White Rock Tower is bicycle trail

Capability: In line with the GWNF's goal of expanding the size of existing Wildernesses to improve their Wilderness qualities and enhance the NWPS system, this area offers the opportunity to expand the acreage of a small Wilderness. Furthermore, it will almost connect the Rich Hole and Rough Mountain Wildernesses, generally increasing the area of designated Wilderness that is currently relatively small.

Availability: There are management concerns about the southern portion of the area that has an extensive boundary with private land and is irregularly shaped. The northern section along Forest Road 129 has been actively managed with timber production and prescribed burning. Forest Road 129 is also a popular forest access route for hunters and anglers.

Rich Hole Addition - # 466 White Rock Tower Trail is used by Bicyclists and maintained with mechanized equipment.

RICH PATCH (5,625 acres) – Adequate MTB Representation

Capability: This extremely narrow sliver of land, in and of itself, is not capable of providing for ecological or recreational Wilderness qualities. The majority of the PWA is on the Jefferson National Forest.

Availability: One TESLR or FS sensitive species exists in the area that might benefit from management activity. There are many trails, including a National Recreation Trail, used by mountain bikers.

Rich Patch PWA - #5001 Hoop Hole and #5004 Iron Ore Trail are both used by Bicyclists.

ROUGH MOUNTAIN ADDITION (2,063 acres)

Capability: Same as Rich Hole above.

Availability: There are shale barrens on the north end that would benefit from prescribed fire. North end also has a boundary adjacent to private land.

Rough Mountain Addition does not have bicycle use.

Saint Marys North, South and West Additions do not have any bicycle use.

SAINT MARY'S ADDITION NORTH (3,006 acres)

Capability: This addition would increase the size of the existing Saint Mary's Wilderness. It has a semi-primitive core of almost 2,000 acres. The area consists primarily of a north facing mountainside with exterior views. However, here is rugged terrain and two very deep and winding drainages providing opportunities for physical challenge and remoteness.

Availability: About 630 acres, or 21%, of the area has private subsurface mineral rights. The area is bordered on the east side by a popular Forest Service road and on the west and north by VA 42. A Forest Service road runs along most of the southern border of the area currently providing motorized access.

SHAWS RIDGE (7,268 acres) FOSM- would be western edge of Ramseys WA

Capability: This area has a core area of about 3,950 acres of semi-primitive land. The area is desirable for expanding the block of Wilderness with Ramsey's Draft and its Addition. However, the area is comprised of a mountain with views east toward Ramsey's Draft and about half of the area has views west toward private land. There is a substantial amount of private interface. The area is not deeply incised to offer outstanding opportunities for physical challenge.

Availability: There is one TESLR or FS sensitive species that is enhanced by prescribed fire (shale barren species). A private inholding exists near the center of the area on the west slope. There is 1.3 miles of road used for public access. There are 396 acres of pine species that benefit from fire.

Shaws Ridge PWA - #652 Shaws Ridge Trail is a good loop route for bicycles when combined with Rt. 250, 614 and 501

SHAWVERS RUN ADDITION (84 acres)

Capability: This area would not appreciably add to the Wilderness qualities of Shawvers Run. If designated, it would add a length of road to the boundary and it would add some additional boundary adjacent to private land.

Availability: There are no concerns for other resources or recreational uses

Shawvers Run addition

THREE RIDGES ADDITIONS, ALL (369 acres)

Capability: These areas would not appreciably add to the Wilderness qualities or improve ability to manage the Three Ridges Wilderness.

Availability: There are no significant concerns for other resources or incompatible recreation opportunities.

Three Ridges North, South, Southwest, West Additions –

THREE SISTERS (9,871 acres) – other special event uses in this area in addition to bicycling

Capability: The area offers a semi-primitive core of about 5,500 acres. There is rugged terrain and multiple drainages to offer remote primitive recreation opportunities (if ones goes off of trails) and physical challenge. The presence of the popular Appalachian National Scenic Trail may result in unacceptably high encounters with other users, by Wilderness standards. The area is arguably large enough to allow natural processes to dominate.

Availability: There are 491 acres of sub-surface mineral rights. This is in one block on the northwest boundary and could be excluded. The Appalachian Trail is maintained by volunteers who use chainsaws. The local maintaining trail club does not support designation. Furthermore, there is an overnight shelter for backpackers within the area. There are 1.3 miles of road that currently provides motorized public access. Wildlife management activities have occurred in the area in recent years, and 879 acres are suitable for timber production. Streams within the area are acidified, and there are 10 miles of native brook trout stream present. These streams may benefit from future liming. There has been a significant investment in mine reclamation just outside of the eastern boundary. Additional work may be needed there.

Three Sisters PWA – Cyclists wish to reopen Belle Cove and regain access to Salt Log and Saddle Gap. This is a very popular access point for Lynchburg, VA cyclists.

Pictured below are trails we would like to add to the Pedlar system that are already on the ground and being used as trails.

Onion Mountain on the Pedlar

Thunder Ridge Wilderness bypass –

The proposed Great Eastern Trail has been a dream for Cyclists for over a decade. We are excited to assist with development of the route by both maintaining and constructing sections and developing community interest in the Trail.

Wild Oak trail re-routes are needed because the route is highly unsustainable. If done correctly this would increase the distance from 26 miles to over 40. This re-routes need to be done before Ramseys Draft Wilderness Area is expanded to include Dividing Ridge and Springhouse Ridge, both sections of the Wild Oak Trail.

Pictured below is for the Lookout Mountain section that includes a connector from the Bear Draft Fireroad

Wild Oak Trail re-route on Dividing Ridge – would connect Wild Oak Trail with Dowells Draft

Annual Bicycle Events on the George Washington National Forest

Virginia IMBA Mountain Bike Festival – Fundraiser for respective participating clubs

Uses - #447 Shenandoah Mountain Trail, FR 173 Benson Run Road and it would use the proposed connector along Hughart Run to FR 393 and FR 399

538 North River Gorge Trail
716 Lookout Mountain Trail
650 Dowell's Draft Trail
496 Bald Ridge Trail
436 Lynn Trail
378 Wolf Ridge Trail
716 Chestnut Ridge Trail
489 Chimney Hollow Trail
485 Crawford Mountain Trail
432 A and 432 Narrowback Trail

Shenandoah Mountain 100 – 100 Mile National Championship bike ride that has shaped the backcountry bicycle culture on the east coast. This event has been running for 11 years since 1999.

FR 536, 536D, 85, 95, 95B, 96, 101, 348.1, 425, 427
Rt. 250, 730, 924, 715, 764
432 Narrowback Trail
436 Lynn Trail
378 Wolf Ridge Trail
650 Dowells Draft Trail
442 Bridge Hollow
496 Bald Ridge

491 Johnson Draft
716 Wild Oak Trail
513 Shaffer Hollow

Shenandoah Mountain Bike Festival – trail project and trail rides all weekend

Southern Traverse – IMBA Epic – Economic Development for Deerfield Valley

The Southern Traverse is a nickname for the South most section of #447 Shenandoah Mountain Trail. The ride begins on FR 173 Benson Run Road and travels south on #447 to SR 627 Scotchtown Draft. We would like to build .6 mile of trail that would connect Hughart Run to FR 393. Building this section of trail would allow for a larger range of riders to experience 4 miles of ridge riding on #447 without having to ride 17 miles of it.

Stokesville – Douthat – Stokesville Ride (Annual) Supported loop bicycle trail ride Mothers Day weekend. Ride preparation results in 400 hours of trail maintenance yearly consisting of chainsawing, brushing and treadwork in Jerkemtight, Little Mare Mountain, Beards Mountain, Elliott's, and Crawford Mountain potential wilderness areas. Trails used and maintained for the ride are:

513 Shaffer Hollow Trail
716 Wild Oak Trail
425 Hankey Mountain Rd.
650 Dowells Draft
447 Shenandoah Mountain Trail
714 Little Mare Mountain Trail
456 Brushy Ridge Trail
473 Middle Mountain South
#720 Greenwood Point
473 Fore Mountain Trail
459 Beards Mountain Trail
443 Great North Mountain Trail
485 Crawford Mountain Trail
489 Chimney Hollow Trail

Aspirations

Virginia Mountain Bike Trail that connects from Maryland to Tennessee along the ridges of the George Washington and Jefferson National Forest. This route is 95% on the ground and open for use.

Bicycle Campgrounds along Shenandoah Mountain and Hut to Hut System along Great Eastern Trail Bicycle Route

Annual multi day mountain bike tour of George Washington NF core singletrack

- economic development
- foster trail interest

Shenandoah Valley Network

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May 7, 2010

George Washington Plan Revision
George Washington & Jefferson National Forests
5162 Valleypointe Parkway
Roanoke, VA 24019-3050

SENT VIA EMAIL

Re: Comments to GWNF Forest Plan

Dear Planning Team:

Shenandoah Valley Network is a non-profit conservation program linking community groups working on land protection, land use and transportation issues in the northern Shenandoah Valley. The six counties where we work, Frederick, Shenandoah, Warren, Page, Rockingham, and Augusta, each include portions of the George Washington National Forest (GWNF).

We wish to comment on three important issues that deserve substantial consideration in the Forest Plan revision: local drinking water resources, industrial wind energy development, and natural gas leasing.

I. PROTECT LOCAL DRINKING WATER RESOURCES

Since late 2008, forty localities and organizations have adopted formal resolutions urging the George Washington National Forest (GWNF) to consider drinking water resources in its Forest Plan revision. Within the Shenandoah Valley, seven county Boards of Supervisors, four Town Councils, and two Cities, representing over 340,000 citizens, submitted such resolutions. Some or all of the drinking water supplied in these communities comes from sources on the GWNF. These elected officials are calling on the GWNF Planning Team to enhance management of drinking water in the new Forest Plan, and they reflect the strong public support in the Shenandoah Valley for increased attention to this public resource.

Land disturbing activities can and do impact drinking water resources. For example, a 1996 flood forced the city of Salem, Oregon to install a $1 million pre-treatment facility to lower turbidity levels that overwhelmed their sand filtration system. Eighty percent of Salem's primary watershed is public land managed by USFS, Bureau of Land Management (BLM), and Oregon Department of Forestry (ODF). A US GAO report

indicated that timber harvesting and related road construction produced significant soil erosion during the 1996 flood. Since then, the city has worked closely with the USFS, BLM and ODF to implement improved watershed management practices.[1]

In addition to examples of localities where land use practices have impacted public water supply, there are numerous examples of places that have taken steps to protect watersheds for drinking water. In April of 2009, the Town of Purcellville, Virginia granted a conservation easement protecting the 1300-acres watershed and reservoir that provides nearly 50% of the Town's water. A year earlier, in April of 2008, the City of Roanoke entered into a conservation easement agreement protecting over 6,000 acres of the watershed for its drinking water. These easements limit development, road-building, and other ground disturbing activities. The US Forest Service has worked with communities such as Sante Fe, NM, Portland, OR, and Grand Junction, CO to manage watersheds on public land for municipal water supply protection.

As you know, National Forests in the eastern United States were created, in part, to protect drinking water supplies. Yet the watersheds in the GWNF that provide water directly to local communities currently are not managed any differently from the areas of the Forest that do not.

We recognize that the GWNF is charged with managing and monitoring resources on the Forest and is therefore best equipped to develop specific standards for drinking water management. However, Shenandoah Valley Network and our partners are eager to work with you to develop these standards and offer our assistance in your effort. As a starting point, we propose the following additions to the Plan:

<u>1- Identify the watersheds that provide drinking water directly to local communities.</u> According to the 2008 study, "The State of Our Water: Managing and Protecting Drinking Water Resources of the George Washington National Forest," conducted by Wild Virginia, twenty-two localities and over 260,000 residents in western Virginia obtain some or all of their drinking water from sources on the GWNF.

We understand from GWNF public meetings that the Planning Team intends to identify watersheds that provide drinking water to local communities in the new Forest Plan. We applaud this first step.

<u>2- Consider drinking water resources in forest management.</u> Within the watersheds that provide drinking water to local communities, specific standards should include:

- No new or temporary road construction;
- No gas, oil, or mineral leasing where GWNF controls the subsurface mineral rights, and in places where the mineral rights are privately held, the strictest possible safeguards for surface and ground water protection should be imposed;

[1] McGrath and Greenwalt. 2009. Protecting the City's Water: Designing a Payment for Ecosystem Services Program. Carson Water Subconservancy District.
Accessed May 7, 2010. http://www.cwsd.org/newcms/admin/Uploads/NREarticle.pdf

- Prioritize rehabilitation or decommissioning of old roads that fall within these watersheds;
- No new grazing allotments and protective management standards for existing allotments in these watersheds;
- Increased GWNF scrutiny on actions, such as new campgrounds, timber sales, or controlled burns, when they are proposed to occur within watersheds that provide drinking water directly to local communities; and
- Make communities using the reservoirs aware of any proposed activities and projects within the reservoir watersheds, at the earliest time practical.

3- Monitor water quality specifically for drinking water

It is our understanding that the George Washington National Forest does not currently conduct any monitoring activities designed to identify impacts to drinking water resources. We encourage increased monitoring within the watersheds that supply drinking water. For example, sedimentation from ground disturbing activities can significantly increase treatment costs to localities. Effective monitoring will detect increased levels of sedimentation so that future management activities can be adapted to prevent these inputs.

II. PROHIBIT INDUSTRIAL WIND ENERGY DEVELOPMENT

We applaud the GWNF's April 2009 action denying FreedomWorks LLC proposal for an industrial-scale wind project on the Forest. After careful consideration, we have concluded that all commercial wind energy development is inappropriate on the George Washington National Forest. To this end, we submitted a letter to the Planning Team on January 29, 2009. The major points of that letter are restated below.

SVN is a strong proponent of reducing our region's reliance on fossil fuels. We encourage compact growth around existing towns for less driving; we promote rail improvements over an expanded I-81 for more efficient trucking; and we support small, appropriate-scale wind energy projects on private lands through our participation in the development of county wind ordinances. However, the consequences of commercial energy development on forested ridgelines are too severe to justify its development on publicly held lands in the east. We strongly encourage you to prohibit wind projects in the revised Forest Plan.

The George Washington National Forest 2007 Comprehensive Evaluation Report (CER), which guides the Forest Plan revision, correctly identifies wind energy development as an emerging public issue. The CER outlines four Tentative Options for establishing guidelines for wind energy development on the Forest. Option C-4 states:

> *Identify that nowhere on the National Forest is generally suitable for wind energy development because of known effects on bats, particularly the Indiana bat (whose summer habitat is the entire Forest), until such time as wind energy*

technology exists that significantly lessens the known effects of the turbine on bats. (Draft Comprehensive Evaluation Report p. 120, 2/15/2007).

We encourage the pursuit of Option C-4 with some critical additions.

1- Broader Wildlife Impacts. The potential wildlife consequences of construction and operation of large-scale wind power projects are well-documented in United States Fish and Wildlife Service's recommendation against wind turbines on the Shenandoah Mountain site.[2] The USFWS states that wind turbines on Shenandoah Mountain site would likely impact the Indiana bat, as well Virginia big-eared bat, bald eagles and migratory songbirds**.** Beyond turbine effects, the USFWS letter raises concerns about the consequences of clearing forest for roads to construct and access turbines. According to USFWS, these consequences may include "*direct loss of deep forest habitat; an increase in edge habitat; increased nest parasitism and predation; a decrease in abundance and diversity of area-sensitive species with a concurrent increase in habitat suitability for edge and generalist species; and interruption of travel corridors, displacement, and other behavioral effects."* **Until technology exists that significantly lessens turbine effects on at-risk birds and bats and minimizes the habitat impacts of construction and access, wind energy development is unsuitable on the George Washington National Forest.**

2- Scenic and outdoor recreation impacts. Public lands are one of this country's greatest legacies. Good stewardship of these lands requires a strong public commitment to the land and the public land management agencies charged with their protection. In order to ensure that the public insists upon good land management, it is critical that George Washington National Forest continue to provide a wonderful outdoor experience for hikers, birders, hunters, fisherman, backpackers, and other recreationists. Current technology for wind energy development, which requires huge towers, wide roads on ridgetops, and forest clearing, is inconsistent with the recreational experience on the George Washington National Forest. **Until wind energy projects can be developed that have a minimal footprint on the landscape for scenic and recreational resources, industrial wind projects are inappropriate on the George Washington National Forest.**

3. Private land suitable for wind projects. National Forest lands can only be used for energy development when other non-Federal lands cannot. According to a letter submitted to Ms. Linda Brett by Southern Environmental Law Center (SELC) on May 13, 2008 regarding the Church Mountain wind turbine proposal, the Forest Service Handbook implementing special use regulations, under which wind applications would be considered, requires that applicants demonstrate the need to use National Forest lands. According to SELC, "private land ridge tops account for more than half of the class 3+ wind potential" in western Virginia. **Until wind energy applicants can demonstrate that there is not suitable non-Federal land on which to develop wind energy, industrial wind projects should not be permitted on the George Washington National Forest.**

[2] United States Fish and Wildlife Service November 16, 2007 letter to Ms. Wendy Tidhar

In developing your draft Forest Plan, please reconsider CER's recommendation to pursue Option 1, identifying the Forest as generally suitable for locating wind energy development outside of special areas. Instead, we encourage you to protect the multiple uses for which the Forest was created by prohibiting wind energy development. Impacts of wind generation on wildlife, scenic and recreational resources are too high to warrant the use of George Washington National Forest lands for industrial wind projects at this time.

III. LIMIT NATURAL GAS LEASING, PARTICULARLY HYDROFRACTURING

As you are by now surely aware, the development of the Marcellus Shale play and extraction of natural gas through hydrofracturing is a substantial issue that did not exist during the planning for the 1993 Forest Plan. The practice is widespread in West Virginia and Pennsylvania, and the first permit in Virginia was proposed to the Rockingham County Board of Supervisors on February 24, 2010.

The federal Environmental Protection Agency (EPA) in March of 2010 initiated a comprehensive, two-year study to determine the risks to water and public health of hydrofracturing. This is in contrast to a previous EPA statement determining that hydrofracturing did not pose a risk to drinking water. Presumably, this reversal is due to overwhelming evidence of negative impacts in areas where the technique is common.

Scientific American has recently published a series of articles documenting harmful impacts of hydrofracturing. According to the March 30, 2010 issue of the magazine, "leaks from badly cased wells contaminated drinking water wells—and one even exploded" in Dimock, Pennsylvania. In Dish Texas, a town at the center of a gas drilling boom, known cancer-causing agent benzene "was present at levels as much as 55 times higher than allowed by the Texas Commission on Environmental Quality."

1. Delay any natural gas lease approval until federal guidance is issued. Due to the huge level of uncertainty and lack of accepted safety measures, hydrofracturing should be prohibited on the GWNF until the EPA completes the study that is currently in-process and the federal government adopts pertinent regulations.

2. Prohibit leasing in areas that provide drinking water. On the areas of the forest that provide drinking water to local communities, hydrofracturing poses too high a risk to valuable water resources and should be prohibited. As stated previously, on the areas of the GWNF where the subsurface rights are privately held, the strictest possible safeguards for surface and ground water protection should be imposed.

The new Forest Plan will likely guide the management of the GWNF for the next 10 to 15 years or longer. During that time, the population of the Shenandoah Valley is projected to increase considerably. With this population growth, there will be increased

demand for public water supply and increased pressure on GWNF resources. The Planning Team has an opportunity now to put the necessary safeguards in place to ensure that the valuable resources on the Forest are protected to ensure multiple uses and benefits far into the future.

Thank you for your consideration of these comments. Please do not hesitate to contact us if we can provide further information or assistance during the planning process.

Sincerely,

Kate G. Wofford
Executive Director

cc:
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May 7, 2010

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COMMENTS on the
LAND and RESOURCE MANAGEMENT PLAN
for the GEORGE WASHINGTON NATIONAL FOREST
on the issue of
DRINKING WATER RESOURCES and WATER QUALITY

Thank you for the opportunity to comment on the Land and Resource Management Plan for the George Washington National Forest (GWNF). Please accept these comments on behalf of Wild Virginia and Heartwood. These comments address issues related to public drinking water resources and water quality in the GWNF. These comments supplement those submitted by Wild Virginia and Heartwood on July 5, 2009.

Our July 2009 comments point out numerous statements by Forest Service staff and wording in numerous documents that emphasize the need to protect and restore water quality and watershed health in our national forests. The need to protect and restore these resources was recognized, and commitments made to do so, as early as the Weeks Act of 1911.

Since our July 2009 comments, water resources have continued to be an emphasis of national forest management. Remarks by Secretary of Agriculture Tom Vilsack on August 14, 2009 highlight the importance of water resources. He stated, "*Our shared vision must begin with a complete commitment to restoration. Restoration, for me, means managing forest lands first and foremost to protect our water resources while making our forests far more resilient to climate change*."

The July 2009 comments also discuss the concern of local citizens and communities about drinking water that originates from surface waters of the GWNF. At that time, thirty-three organizations had adopted resolutions calling on the Forest Service to provide stronger protection and management of water quality and local drinking water watersheds in the GWNF. Forty organizations have now adopted drinking water resolutions. Attachment A lists these organizations. The list includes sixteen localities (city councils, town councils, and county boards of supervisors), two regional Soil and Water Conservation Districts, two regional Planning District Commissions, three county Public Service Authorities, and a county Water Quality Committee.

Other important points and concerns raised in our July 2009 comments bear repeating and are listed in the bulleted items below. Full discussion of these items is provided in the earlier document.

- There continues to be great public concern about water quality in general and drinking water in particular. This is true at the local level (as evidenced by the drinking water resolutions) and the national level (e.g., Gallop Environmental Survey, March 2008).
- Forest lands are critical in providing clean, safe drinking water. A 2008 report by the National Research Council concludes that a sustainable supply of clean water is as important as any commodity or other resource our forests provide.
- For a number of reasons, many localities are taking steps to protect their drinking water at its source, greatly reducing the need for costly infrastructure to cleanse it (e.g., Roanoke, VA, Asheville, NC).
- The GWNF is a critical source of public drinking water. Twenty-two localities in western Virginia obtain some or all their drinking water from surface waters of the GWNF.
- More than 262,000 residents of these communities are domestic users of water from the GWNF. Downstream communities using waters that originate in part from the GWNF include Richmond, VA and the metropolitan Washington DC area.
- Approximately 44.5% of the GWNF land in Virginia occurs in watersheds that provide drinking water to these 22 area localities.
- There is cause for concern about water quality in the GWNF. Fifty streams (roughly 154 stream miles) and 6 reservoirs within the GWNF were designated as impaired in 2006 by the Virginia Department of Environmental Quality (DEQ). None of the water bodies were considered impaired as a public water supply though.

The map entitled "Surface Drinking Water Sources on or downstream from the George Washington National Forest", produced by the Forest Service and dated April 3, 2009, is helpful in illustrating the importance of the GWNF as a source of drinking water. It somewhat understates the importance of GWNF though. Many of the localities identified on the map provide drinking water to other localities that are not identified. For example, the City of Lynchburg provides drinking water to portions of Campbell and Bedford Counties. The City of Winchester provides drinking water to Frederick County. There are several other instances of "consecutive users", in which a locality purchases or otherwise acquires drinking water from a locality that obtains drinking water from the GWNF (see Table 3, page 10, Wild Virginia 2008).

The Forest Service document entitled Draft Evaluation of the Need for Change, dated March 2010, has a good discussion of Riparian Resources and related topics. Viewpoint 1 (page 33) and additional discussion on page 39 is useful in pointing out the need to adequately protect intermittent and channeled ephemeral streams. These streams play a large role in storing and processing sediment, water, woody debris and nutrients for the larger stream system. Many amphibians are dependent upon habitat provided by forested riparian areas in headwater streams. In fact, a large variety of wildlife species benefit from wide riparian buffers along all streams.

The discussion of New York City's (NYC) watershed protection program (pages 39-43) is also very informative. In partnering with numerous agencies and organizations, NYC has been very successful in protecting the watersheds (and thus water quality) from which it draws its drinking water. The Draft Evaluation uses information from a 2000 publication by the National Research Council to help make judgments on management of the GWNF. The Draft Evaluation also compares New York State Forestry Best Management Practices (BMPs) to proposed riparian management guidelines for the GWNF. On page 43, the Draft Evaluation states "the NYC strategy views a managed forest landscape as the preferred land use."

Though the NYC information is useful, there are definite limitations in applying the NYC strategies to management of the GWNF. Most of the forest land in the NYC watershed is privately owned and managed by thousands of individual landowners. As such, one of the primary watershed protection strategies is to maintain the land in its current forested state and minimize conversion of the land to non-forest uses. In other words, a managed forest that follows BMPs is preferable to other potential uses of the land, such as residential or commercial development or intensive agricultural use. In order to maintain the forested landscape, economically viable forestry operations are essential.

Given the land use and economic considerations just described, forest management options in the NYC watershed are much more limited than those on publicly owned national forest lands. The Northwest Forest Plan, finalized in 1994 and creating the framework for management of public lands in the Pacific Northwest by the Forest Service, USDI Bureau of Land Management, and other federal agencies, might be a better example from which to draw management recommendations for the GWNF.

RECOMMENDATIONS

Local drinking watersheds.

We recognize and approve of the decision that Source Water Protection Watersheds, as well as other types of watersheds, will be identified and mapped in the new Forest Plan. Given the amount of public interest and comment on drinking watersheds, they merit a higher degree of attention and protection than many other areas of the GWNF.

Communication between the GWNF staff and local communities regarding these watersheds should be improved and strengthened. Proposed projects and other activities within these watersheds should be coordinated with localities being served (adapted from Guideline SW27 of the 2006 Monongahela National Forest Land and Resource Management Plan).

Management within these watersheds should be more restrictive than most other areas of the GWNF. Road densities should be decreased, areas considered suitable for timber production should be limited, and greater riparian area protection is justified. All proposed projects and activities require greater scrutiny, and some should not be considered at all. New roads (including temporary roads and "reconstruction" of roads), wind energy development, mineral leasing, and grazing allotments are among the activities that should not be permitted.

Watershed management.

As we have stated previously, management of entire watersheds should be incorporated in the Forest Plan. Relying solely on riparian area management is inadequate for proper water resource management. There should be specific management objectives for Source Water Protection and other identified types of watersheds. Forest Service Manual 2520 has a practical structure for measuring and addressing watershed health. The Watershed Condition Assessments and Watershed Improvement measures in the Forest Service Manual can guide management in the GWNF.

Riparian areas.

Allowing timber harvest and vegetation management in portions of riparian zones, as described in the Draft Evaluation of the Need for Change, is problematic. Forest Plan language on riparian area management must be precise and detailed. We prefer a "hands off" approach in these critical areas to maximize benefits to water quality and biodiversity. Any potential active management, particularly involving ground disturbance, should be described in the Forest Plan and not developed at the project level with input from the Interdisciplinary Team.

We recommend wider riparian areas be identified than that needed strictly for water quality considerations. Again, an array of wildlife, including terrestrial species, amphibians, and aquatic species, will benefit. Viewpoint 1 in the Draft Evaluation of the Need for Change (page 33) describes the benefits of large, healthy riparian areas, including the need for large woody debris in streams and riparian areas to improve aquatic habitat.

We also recommend that riparian area zones be widened near impaired waters and trout streams. There is precedent for this in the Northwest Forest Plan, which included protecting and restoring salmon fisheries among its objectives. As discussed further below, there is a true need to address impaired waters in the GWNF.

Brook trout (*Salvelinus fontinalis*) would benefit from stronger riparian area protection. The Eastern Brook Trout Joint Venture (EBTJV) has documented the decline of brook trout and the streams and watersheds that support them. The EBTJV (2006) identifies high water temperature, poor land management, degraded riparian habitat, grazing, and stream fragmentation (e.g., roads and culverts) as the biggest threats to existing populations. Brook trout are vulnerable to the effects of climate change as well, particularly as water temperatures are impacted. Virginia is important to the long-term viability of native brook trout populations, as it has a greater number of watersheds with intact brook trout populations than any state south of New York (EBTJV 2006). The GWNF (along with Jefferson National Forest and Shenandoah National Park) is home to many of the remaining trout streams in the state, and should manage them very proactively.

Roads.

The large presence of roads in the GWNF creates a number of serious ecological and management issues, including negative impacts to water quality, watershed health, and forest health. Ambitious plans and goals for road closings and decommissionings should be part of the Forest Plan. At public Forest Planning meetings in 2009, a draft goal of 1 to 1.5 miles/year of road decommissioning was announced. A much higher goal (in terms of miles/year) should be established.

Sedimentation.

Sedimentation in streams should be monitored. As "the primary factor in water quality degradation" in national forests (page 19, USDA Forest Service 2007a), affecting both aquatic wildlife and drinking water resources, more information and monitoring of sedimentation is needed. All impaired waters are impacted by physical stresses, sometimes multiple stresses from multiple sources. Eliminating or minimizing stress will increase the resilience of these aquatic systems. Impaired waters, based on benthic macroinvertebrate assessments, can be related to or caused by sedimentation. Unfortunately, data from DEQ lacks sufficient detail to ascertain the role of sedimentation in the impaired waters of the GWNF.

Inventoried Roadless Areas and newly identified roadless areas.

All Inventoried Roadless Areas and all newly identified roadless areas (potential wilderness areas) identified in the current plan revision process should be managed in accordance with the 2001 Roadless Area Conservation Rule. By eliminating most ground-disturbing projects and activities in these areas, watershed and water quality protection will be greatly strengthened. Sedimentation rates will not be elevated, thus eliminating "the primary factor in water quality degradation" in national forests (Ibid).

Inventoried Roadless Areas have a large, positive impact on water quality within the GWNF. More than one third (approximately 36.7%) of the watersheds for the five drinking water reservoirs in the GWNF are within Inventoried Roadless Areas. More than one fourth (approximately 27.2%) of all local drinking watersheds combined, in the Virginia portion of the GWNF, are within Inventoried Roadless Areas (Wild Virginia 2008).

Impaired waters.

Many of the causes of impaired waters are beyond the control of the Forest Service. Though the agency is not responsible for actions and problems outside the GWNF, forest planning and management should take into account activities outside the GWNF that impact watersheds and water resources within the GWNF. The large presence of impaired waters (50 streams and 6 reservoirs) in the GWNF indicates that more should be done to protect water quality.

Grazing allotments.

As the draft Comprehensive Evaluation Report of February 2007 states, "*Efforts to fence cows out of Shenandoah River have failed and cows continue to cause bank erosion and resulting sedimentation in the grazing allotment(s)*." (USDA Forest Service 2007b, p. 28) Obviously, this situation is highly undesirable and needs to be resolved. Grazing allotments should not be permitted at all in public drinking watersheds. The revised Forest Plan should

minimize, if not eliminate, the use of grazing allotments forest-wide. Any allotments should meet all agricultural and forestry BMPs of the Commonwealth of Virginia.

Adopt measures from drinking water resolutions.

As described earlier in this document, forty localities and organizations have adopted resolutions calling on stronger protection of drinking water resources and watersheds in the GWNF. Five requests that are common and consistent among the resolutions are listed below. These requests should be met in the new Plan.

- The Plan should formally identify all watersheds that provide drinking water to local communities.
- Forest Service staff should communicate more effectively with communities obtaining drinking water from watersheds and reservoirs within the GWNF.
- Forest Service should improve data gathering and collection efforts in order to better describe and assess water quality and watershed conditions.
- Forest Service should establish management objectives for entire watersheds in order to maintain, protect, and enhance water quality.
- In coordination with local communities, other agencies, and the public, the Forest Service should develop policies and management plans for drinking watersheds.

CONCLUSION

Managing for watershed protection creates many benefits beyond drinking water protection. Improving watershed health helps produce a healthier and more resilient forest. Many aquatic species, terrestrial species, and natural communities benefit from sound ecological watershed management. Outdoor recreational opportunities, scenic resources, biological diversity, and other forest features are enhanced as well.

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REFERENCES

Eastern Brook Trout Joint Venture. 2006. Eastern Brook Trout: Status and Threats. As found at [http://www.easternbrooktrout.org/docs/brookiereportfinal.pdf].

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ATTACHMENT A

List of the 40 organizations (in alphabetical order) that have adopted resolutions calling for stronger protection of drinking water resources in the new Forest Plan for the George Washington National Forest. List is current through May 1, 2010. Localities are underlined.

Amherst County Board of Supervisors (BOS)
Amherst County Service Authority
Amherst Town Council
Augusta County BOS
Bedford County BOS
Bedford County Public Service Authority
Campbell County BOS
Campbell County Utilities and Service Authority
Central Shenandoah Planning District Commission
Central Virginia Land Conservancy
Clarke County BOS
Dayton Town Council
Friends of the North Fork Shenandoah River
Friends of the Shenandoah River
Harrisonburg City Council
Lynchburg City Council
Middletown Town Council
Page County BOS
Page County Water Quality Committee
Potomac Conservancy
Preserve Frederick
Pure Water Forum
Region 200 Local Government Council
Robert E. Lee Soil & Water Conservation District
Rockingham Community Alliance for Preservation (CAP)
Rockingham County BOS
Scenic 340 Project
Shenandoah County BOS
Shenandoah Forum
Shenandoah Riverkeeper
Shenandoah Valley Network
Shenandoah Valley Soil & Water Conservation District
Staunton City Council
Timberville Town Council
Trout Unlimited - Virginia Council
Valley Conservation Council
Virginia Conservation Network
Virginia Native Plant Society
Virginia Wilderness Committee
Warren County BOS

The Nature Conservancy
Protecting nature. Preserving life.™

The Nature Conservancy in Virginia
Allegheny Highlands Office
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nature.org/virginia

May 7, 2010

Ken Landgraf, Planning Staff Officer
Karen Overcash, Planning Team Leader
George Washington & Jefferson National Forests
5162 Valleypointe Parkway
Roanoke, VA 24019-3050

Dear Ken and Karen;

On behalf of The Nature Conservancy, I am pleased to submit our comments on the Notice of Intent (NOI; Federal Register, Vol. 75, No. 46, March 10, 2010) to prepare an environmental impact statement and revised land management plan for the George Washington National Forest (GWNF). We have appreciated the opportunity to work closely with you and members of the Interdisciplinary Team (IDT) since the plan revision initiated in 2007. We have also valued participation in the public workshops offered during this NOI comment period, as well as those conducted under the previous 2005 and 2008 planning regulations. The Conservancy is optimistic that completing this plan revision under the provisions of the 1982 planning rule will enable the necessary conditions to generate broad public support and provide the tools needed to address the complex challenges faced in developing a plan. We hope the revised plan will emphasize a core network of resilient forests, restored ecosystems, healthy watersheds, and ecosystem services.

The Conservancy previously submitted comments on the draft Comprehensive Evaluation Report (CER; see comments dated April 27, 2007 and August 7, 2008), and working under our Master Memorandum of Understanding (MOU; Forest Service Agreement Number 08-SU-11132424-006) we submitted more detailed analyses that identified and summarized optimal management strategies for priority conservation areas (including significant species, natural communities, caves, aquatic systems, and matrix forests) found on the GWNF. We believe these documents should continue to be useful in developing issues and alternatives and, as such, their content will not be extensively reiterated here.

As noted in our comments submitted subsequent to you publishing the NOI (see letter dated February 5, 2010), the Conservancy has been extremely encouraged by recent statements from Secretary of Agriculture Tom Vilsack and Forest Service Chief Tom Tidwell announcing a bold,

new vision for America's national forests. Both have called for a renewed focus on forest restoration, one which protects water resources and wildlife habitat, provides resiliency to climate change, and mitigates effects from a myriad of threats including pests, pathogens, and invasive species. We believe that as one of the first forests to reinitiate their plan revision under the 1982 regulations and especially being the first forest in the country to develop its third land and resources management plan, the GWNF has a significant opportunity to model both a collaborative, engaging, and effective public process as well as plan components which focus adaptive management strategies on restoring and maintaining ecological processes and landscape integrity.

In this context, we do not address much of the content (e.g., proposed plan components) released with the NOI and instead focus our comments on issues we believe are central to the process of developing an adaptive management framework or must be critically evaluated to achieve the vision being set forth by the Secretary and Chief.

Vision

With the closing of the NOI comment period, the GWNF should be able to determine significant issues which will drive further analysis, but before development of alternatives, the GWNF should clearly articulate a vision for the revised plan. We believe that an ecosystem-driven, conservation vision can address and accommodate all the ecological, social, and economic factors the GWNF must consider. Various plan components, e.g., desired conditions, can further develop this vision, but a single, forest-wide theme will set the stage for both staff and the public to understand the overarching direction the plan will take.

For example, the Monongahela National Forest begins its Forest Integrated Desired Conditions chapter of its 2006 plan with: "The desired condition for the Forest is to care for the land and serve people through the *maintenance and restoration of productive and sustainable ecosystems*" (emphasis added). Similarly, in their 2008 draft plan, the National Forests of Mississippi states: "the recurring theme that runs throughout these descriptions is a *focus on restoring and sustaining the native ecological communities* …" It further emphasizes the theme's importance with: "Although on-the-ground changes may be slow to show up at first, the *shift to restoration of native ecological systems and improvement of threatened and endangered species habitat as the primary focus* of the revised Plan is expected to have a lasting effect on future conditions…" (emphasis added).

We suggest the vision carries such importance that it should be emphasized and made available for public comment before (or at least with) the draft alternatives later this summer.

Niche

Describing the importance and uniqueness of the GWNF in the context of local, regional, and national scales is of equal importance to the vision in articulating the purpose and need for the decisions that will be made in the plan. The draft Niche statement published with the supplemental materials on the web site at the time of the NOI identifies a number of significant features of the GWNF including several which emphasize its contribution to regional biodiversity and human quality of life. Highlighting the importance of drinking water supplies, carbon storage, and other ecosystem services is especially important amid emerging markets and opportunities to ensure their protection and as these values are increasingly appreciated by the public.

We were particularly encouraged to see recognition of the GWNF's large, intact forest blocks being significant to the eastern US and would suggest further emphasis be placed on that contribution to the world's overall forested regions and the temperate broadleaf forest biome (Figure 1, Figure 2). You may also recall in our previous comments that the GWNF contains more than one-quarter of all priority species and community targets identified by the Conservancy in our Central Appalachian Forest Ecoregional Plan. Both of these features factor heavily in our comments below.

Adaptive Management Framework

The Conservancy firmly believes an adaptive management framework, when developed using the best available scientific data, can direct suitable uses and management that supports overall ecological health by providing for and sustaining a diversity of plant and animal species and habitats. We have applied this approach in a systematic way to hundreds of places across the US and around the world. Therefore, we were extremely pleased to see the GWNF adopt the USFS Southern Region's Ecological Sustainability Evaluation (ESE) during the revision process last year. As you know the ESE framework is based upon the Conservancy's Conservation Action Planning process and we are, in fact, recommending it (or a similar methodology) for inclusion in the new planning rule.

Even though the ESE, and most recently a relational database called the ESE Tool, has mostly been applied by Southern Region forests working under the 2005 and 2008 planning regulations, the framework has been used by plans developed under the 1982 rule (e.g., Ouachita National Forest, Land Between the Lakes National Forest) and we strongly encourage the GWNF to continue its application and to thoroughly complete this analysis prior to developing alternatives, assessing their environmental impacts, and drafting plan components.

Central to the ESE framework is the identification of key ecological systems and species across the GWNF as the basis for planning and management. From review of the draft Ecosystem Diversity Report and Species Diversity Report (March 2010), the GWNF appears to have, through the initial stages of this analysis, identified the ecological systems and species which are few enough in number to ease management and monitoring, yet broad enough to capture the smaller or nested systems, rare plant communities, and species that represent the full range of key biological resources.

The GWNF also appears to have developed desired conditions for those ecological systems, but we encourage staff to further review (even peer review) those conditions to ensure they include all key ecological characteristics and indicators of their desired status. We define a "key ecological characteristic" as a critical component of an ecological system or species (e.g., ecological processes such as fire regimes, species life history, community composition or interactions, habitat characteristics, or interaction with other species). By "indicator," we mean the measurable entities that are used to evaluate the status and trend of key factors (Note: the GWNF uses the term "performance measures" in lieu of "indicators," but it is unclear what the distinction is, so we will continue to use "indicators"). It will be important to facilitate a clear link between desired conditions and the resulting plan components (e.g., standards, objectives, prescriptions) and monitoring questions which address them. Explicitly identifying key factors, indicators, and their existing and desired status is fundamental to a rigorous adaptive management framework and associated monitoring program that will help the public understand the extent to which progress is being made towards desired conditions.

The Conservancy recently completed a complementary analysis that may be especially instructive to this evaluation. Operating under our Challenge Cost-Share Agreement (Forest Service Agreement Number 07-CS-11080821-001), we contracted development of an ecological zones model that mapped ecological systems across 1.9 million acres along the VA/WV border, including most of the James River, Warm Springs, and North River districts of the GWNF. The second phase of this project, which will map an additional 3.9 million acres, includes the remaining portions of the GWNF and will be completed this summer. Review of this product may necessitate modifications to some selected ecological systems and deletions or additions of others. It is important to note that karst and caves are not recognized as an ecological system in this analysis (as they are in the draft Ecosystem Diversity Report) and we continue to recommend the GWNF identify significant karst watersheds supporting groundwater quality and rare invertebrates.

Following ecological systems and species (i.e., targets) selection, the GWNF should identify and rank threats and stressors that are negatively impacting or could impact each target. The

GWNF generally reflects this knowledge for the planning area as a whole in the Needs for Change document, but needs to clearly link these threats and stressors to their degree of impact on key ecological characteristics of ecological systems and species and to rank them in degree of severity. An explicit prioritization process for these threats for each ecological system and species should become a basis for developing strategies and ultimately plan components. Such a process will also facilitate evaluation (in the Environmental Impact Statement) of how and to what degree each plan alternative addresses those threats.

Finally, we cannot underscore the importance of developing and implementing a monitoring program (including monitoring questions and quantitative indicator ratings) that would enable the comprehensive yet efficient assessment of progress towards desired conditions. A rigorous monitoring program, linked to key ecological characteristics and their indicators, is essential for an effective adaptive management framework that will trigger necessary changes to management actions. The GWNF plan should include robust monitoring questions that clearly link to desired conditions. Establishing this linkage will enable the GWNF to demonstrate the rationale for decisions about what monitoring questions to include and to measure status and progress toward desired conditions. The preceding steps in the planning process outlined here would help clearly identify the most important indicators to monitor and would demonstrate to the public that the GWNF will use limited resources to collect data that most clearly informs future management.

Climate Change

Climate change has been identified by the Conservancy and others as one of the largest challenges to our work, with important social, ecological, and economic consequences. The GWNF has no doubt heard climate change suggested as a significant issue and grappled with how to address such a complex phenomenon, especially considering the uncertainty inherent in future climate change projections and the impacts themselves. Conservancy staff developing conservation action plans and ecoregional plans have faced the same challenge. To help staff address climate change impacts and synthesize emerging ecosystem-based adaptation strategies, the Conservancy recently developed a climate change primer (Groves *et al*. 2010; attached). We will not attempt to summarize its contents here, but we do recommend its review and suggest that while the task of addressing climate change impacts at the scale of a forest plan may seem daunting, it need not lead to paralysis. In fact, some of the key strategies suggested in this Primer, by US Forest Service direction (USFS 2010), and other guidance documents (Lawler *et al*. 2010) are already well-accepted conservation strategies, including:

1) *Conserving the geophysical stage*: geophysical (e.g., soils, bedrock geology, slope, elevation, aspect) diversity helps to maintain species diversity, such that conserving representative examples of geophysical settings as part of regional conservation, offers an approach to conservation that will hopefully protect regional diversity under both current and future climates;

2) *Enhancing regional connectivity*: maintaining or improving the permeability of land and water for the movement of both individuals and ecological processes (e.g., fire, hydrological flows). Doing so provides the best opportunity for the adaptation of species and communities, whose response to a changing climate is to track optimal habitat conditions, and can also help maintain patterns of connectivity with regard to hydrological flows, which are critical to the ecological integrity of a region;

3) *Sustaining social-ecological systems and functions*: the explicit use of conservation actions in a region to help sustain key ecological processes and functions that improve the capacity of both biological and human systems to deal with the impacts of climate change.

Although best evaluated and implemented at a regional scale, these specific strategies are applicable to the GWNF, especially considering its juxtaposition and contribution to the forest systems of the Central Appalachians. Additional strategies may be necessary to address impacts to: a) threatened, endangered and sensitive species, b) smaller, nested targets (e.g., rare plant communities), and/or c) those systems or species determined to be most vulnerable to climate change. However, in most cases, climate change strategies should be integrated into forest-wide plan direction, rather than developed as stand-alone plan decisions.

Network of Resilient Forests

Resilience can be a confusing term with a wide range of definitions and interpretations. For the purpose of these comments, and we'd suggest for the plan revision, we will use the International Panel on Climate Change definition:

> Resilience: the ability of a social or ecological system to absorb disturbances while retaining the same basic structure and function, the capacity for self-organization, and the capacity to adapt to stress and change.

The USFS's guidance for considering climate change in forest plans (USFS 2010) notes: "the general principle of maintaining ecosystem resiliency by promoting ecological processes and diversity in vegetative composition and structure is also likely *to lead to resilient landscapes*

affected by climate change" (emphasis added). The Conservancy has previously recommended the GWNF contribute to such a network of resilient landscapes or forests by effectively conserving a set of priority matrix forest blocks identified through a vigorous assessment conducted by the Conservancy and partners (including biologists from the GWNF) for the Central Appalachians Ecoregional Plan (Thorne *et al*. 2003). These matrix forests are large (typically greater than 50,000 acres and as large as 300,000 acres), contiguous blocks of native forest that include an array of characteristic forest communities occurring across a range of geologic strata, soils, moisture regimes, topographic positions, and landforms. Matrix forests are important as "coarse filters" for the conservation of most common species, wide-ranging fauna such as large herbivores, predators, and forest interior birds. The size and natural condition of these forested ecosystems allow for the maintenance of dynamic ecological processes, natural disturbance regimes, and meets the breeding requirements of species associated with a diversity of forest habitats.

More specifically, we have recommended the GWNF manage single or multiple "core biological areas" of at least 20,000 contiguous acres within each matrix forest block primarily for biodiversity and the maintenance of ecological processes while surrounding "buffer areas" can be managed for a wider variety of biological, social, and economic values. Most recently, the Conservancy has conducted a landscape integrity analysis of the Central Appalachians ecoregion, exploring primarily disturbance and fragmenting features. Not surprisingly, the matrix forest blocks located within the GWNF contain among the highest integrity sites in the region (Figure 3). Also not surprisingly, those high integrity sites significantly overlap with areas already identified for their remote characteristics (e.g., Wilderness, Inventory Roadless Areas, uninventoried roadless areas).

In previous comments, we recommended many of those areas be designated as Remote Backcountry or Special Biological Areas – designations which appeared to place a primary emphasis on biological values. However, we now recommend the GWNF designate those areas not considered for Special Biological Areas or already designated as Wilderness as a new prescription – Core Reserves (Figure 4). We believe designation of these "core biological areas" within the matrix forest blocks is appropriate as this prescription will more emphatically and explicitly recognize their significance to this network of resilient forest sites within the Central Appalachians.

Cores Reserves would strive for a set of desired conditions that include but are not limited to:

1) Forest structural diversity, with multiple age classes present, including a late successional forest age class (>150 years), specifically composed of a diversity older species as appropriate to site conditions.

2) A fire regime with severity, intensity, and frequency being a function of historical occurrence of fire in the Central Appalachians as well as site specific conditions and topographic position.

3) A cycle of other natural disturbances such as ice and wind storms at recurring intervals within the historical natural range of variability.

4) Vigorous regeneration and recruitment of key canopy species.

5) Favorable conditions for the regeneration of American chestnut (*Castanea dendata*).

6) A herbaceous understory composed of characteristic native species with less than 5% cover consisting of invasive, non-native species; and no new non-native, invasive plant or animals introduced into the system.

7) Standing dead snags and coarse woody debris (>50 cm dbh) in a density of 5-10 logs per acre with roughly 8-10% cover of woody debris in all size classes per 400 meter-squared plot.

8) Soil organic matter and pit and mound topography well developed; soils remaining productive in high elevation acidic areas.

The Conservancy recognizes that many of the areas we are recommending for the Core Reserves prescription also meet the criteria to be considered for Wilderness designation. We encourage the GWNF to thoroughly evaluate those areas and recommend appropriate sites as Wilderness Study Areas, giving due consideration to whether the aforementioned desired conditions can be best achieved through that designation.

Designating areas as Core Reserves will not be enough to preserve critical landscape connectivity and the above analysis identifying remote areas of the forest does not address that aspect of conserving a network of resilient forest sites. The Conservancy is in the process of conducting an adaptive capacity analysis for the Central Appalachians which will help address that issue. We will share the results of that process with you later this summer.

Restoration of Ecosystems and Ecological Processes

The Society for Ecological Restoration definition of ecological restoration is "the process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed." Although supportive of that definition in concept, the Conservancy defines restoration for each landscape where we work based on scientific assessment and goals and objectives for desired landscape changes. We recommend the GWNF take a similar approach and adopt a definition early in the plan revision process. Definition aside, the end result of restoration should be to maintain or enhance the composition, structure, and processes of ecological systems that have the necessary size, composition, and connectivity to maintain resiliency and provide adaptive capacity, i.e., the ability of a system to adjust to climate change including climate variability and extremes to moderate potential damages, to take advantage of opportunities, or to cope with consequences.

The Conservancy no longer thinks of restoration as simply mitigation for past impacts and a return to a static point in time or ecosystem structure. Restoration may be achieved through active management; for example using prescribed fire in fire-adapted ecosystems to more closely reflect the historic disturbance regime and promote healthier forest structure at the landscape level. Passive management may also achieve restoration; for example letting a forest progress towards a diversity of age-classes. Restoration also involves taking actions that are beyond "boots on the ground" actions. Strategic land acquisition and collaboration with partners and private landowners in a landscape factor significantly into restoration.

In support of our earlier comments recommending the plan focus on restoration of ecological systems and processes, we suggest the GWNF consider the following areas as you develop strategies for threat management, plan alternatives for analysis, and eventually plan components. Many of these areas were also recommended at the Southern Appalachian Ecosystem Restoration meeting in December 2007 by a broad set of constituents. We do strongly suggest that before adopting any one restoration focus area in the revised plan, the GWNF ensures the activity has a sound, scientifically-supported ecological benefit and clearly links to abatement of one or more threats documented in the ESE (or similar methodology).

1) **Fire** - The Conservancy strongly supports the restoration of fire-adapted ecological systems to their historic range of variability in terms of fire frequency, intensity, and seasonality. Utilization of the recently completed ecological systems maps should greatly facilitate identification of these systems and be used to prioritize restoration efforts. Both prescribed fire and wildland fire should be considered tools for this effort and, in all cases, restoration of the historic fire regime should not be conducted in such

a manner that leads to the establishment of new roads, extensive new human-created fire breaks, or other vectors for invasive species and habitat fragmentation.

The Conservancy is greatly appreciative of its partnership with the GWNF for the Warm Springs Mountain Restoration Project and the Allegheny Highlands Fire Learning Network (FLN). We hope through continuation of those collaborations and work in the new Southwest Virginia and Allegheny Border FLNs that we will continue to demonstrate significant progress and success in restoring this critical ecological process.

2) **Non-native Pests, Pathogens, and Invasive Species** – The Conservancy has identified non-native and invasive forest pests, pathogens, and plants as one of the top threats to biological diversity in the United States and around the world. We strongly encourage the GWNF to establish broader overall guidance and goals in the revised plan for preventing the introduction of new invasive pests, pathogens, and plants.

   We were especially encouraged to see the GWNF and the Jefferson National Forest initiate a forest-wide non-native invasive plant control program and we suggest referencing our comments on its NOI (March 15, 2010) for more specifics on our recommendations in this area. We continue to encourage the GWNF to become an active partner in the newly formed South Potomac Cooperative Weed and Pest Management Area and to seek similar partnerships in areas such as the Allegheny Highlands or with Shenandoah National Park.

3) **Fragmenting Features** – The Conservancy encourages the GWNF to identify its minimum road system and actively decommission and restore unsustainable roads and trails. We also recommend evaluation of existing utility corridors for restoration to native plant communities.

4) **Red Spruce** – Even though red spruce/northern hardwood ecosystems represent a minor component on the GWNF, the Conservancy strongly encourages more active involvement in the Central Appalachian Spruce Restoration Initiative. This partnership represents diverse interests with a common goal of restoring historic red spruce-northern hardwood ecosystems across the high elevation landscapes of the Central Appalachians. The Laurel Fork area represents a conjunct component of that system which extends into WV and other areas in the northwest portion of the GWNF have been shown to historically support spruce/northern hardwood systems. Through restoration, it may be possible to increase the patch size and connectivity closer to historic conditions of this northern forest type soon enough to help improve its

resiliency to changes in average and seasonal temperature and precipitation patterns over the next 50 years.

5) **Early Successional Habitat** – The Conservancy acknowledges that early successional habitat and open woodland conditions are an important element in a landscape mosaic of habitat conditions. In particular, these forest conditions provide critical habitat for some species such as golden-winged warbler (*Vermivora chrysoptera*) and many others at some point in their yearly life cycle. Silvicultural treatments, prescribed fire, wind and ice storms, beaver activities, and continued maturation of the forest can all create patches of both early successional habitat and more open woodland conditions. It is clear that to meet its goals of providing a range of habitat components for a variety of forest-dependent species, the GWNF plan needs to recognize the importance of early successional habitat and open woodland conditions and to establish clear management goals for maintaining these conditions at an appropriate scale. The GWNF should also look to adjacent landowners (e.g., Virginia Department of Game and Inland Fisheries, private landowners with conservancy easements) for collaborative opportunities to maintain this type of habitat in perpetuity.

   We do suggest that in Inventoried Roadless Areas, uninventoried roadless areas, Special Biological Areas, Riparian Areas, and areas we are recommending for Core Reserves, early successional habitat and open woodland conditions be achieved through late successional dynamics, climatic disturbances, beavers, and fire. It is equally important that the amount of early successional habitat and open woodland conditions generated and maintained under non-silvilcultural means be calculated and applied to the forest-wide total.

   The GWNF has used the term "open woodlands" throughout a number of planning documents (e.g., draft CER, draft Ecosystem Diversity Report, Needs for Change document). We highly recommend clarifying that term, either by clearly defining as one or more ecological systems or linking to key characteristics (e.g., condition, structure) of specific systems.

6) **Riparian Areas** – In addition to expanded riparian zone management widths, which will allow some passive restoration of previously degraded stream banks and buffer zones, the Conservancy recommends the replacement of closed culverts with bottomless culverts to permit aquatic organism passage, the installation of rock vanes and other structures made of natural materials to improve stream structure and habitat

complexity, the removal of rock gabions and restoration of past hydrological modifications that did not incorporate natural stream design elements, the planting of trees to establish riparian forest buffers where none currently exist, the removal/movement of roads to avoid streamside and floodplain areas, and the prevention of dispersed vehicle access and camping along streams.

Suitable Uses - Energy

The Conservancy has previously submitted detailed recommendations on the suitability of wind energy development, energy minerals (e.g., oil & gas), and non-energy minerals. We reiterate those comments and strongly recommend that all Wilderness, Wilderness Study Areas, Inventoried Roadless Areas, uninventoried roadless areas, Special Biological Areas, Riparian Areas, and areas we are recommending for Core Reserves be designated as unsuitable for wind energy development and mineral extraction. Additionally, we have submitted comments to the US Forest Service on its Wind Energy Proposed Directives in 2008 and have attached them for your review.

The Conservancy is also actively engaged in understanding the environmental impacts of natural gas extraction from marcellus shale. In addition to roads, well pads, and other fragmenting and soil disturbing features typical of gas extraction, techniques involved in extraction from marcelllus raise new issues surrounding hydraulic fracturing, water withdraws, and proprietary ingredients in drilling fluids. Our Central Appalachians Energy Team is evaluating these issues and developing a set of conservation practices and recommendations that we will share with you later this summer.

Suitable Uses - Timber

As noted earlier in our discussion of Core Reserves, the Conservancy prefers that more extractive activities take place in the “buffer areas” surrounding “core biological areas.” Therefore, unless timber management or salvage harvesting is pursuant to a scientifically justified ecological objective, the Conservancy recommends that Special Biological Areas, Riparian Areas, Inventoried Roadless Areas, uninventoried roadless areas, and areas we are recommending for Core Reserves be classified as unsuitable for both activities. These areas possess unique and outstanding natural features which need to be buffered from intensive timber management as much as possible. We believe this can be achieved without curtailing the current plan’s suitable base of 350,000 acres.

We have found recent calculations and maps (see Needs for Change document and associated maps) to be confusing with regards to identifying lands suitable for timber management. We highly recommend the GWNF clarify this process, including its relationship to the terms “timber production,” “timber harvest” and “salvage” before releasing draft alternatives which will likely

compare/contrast acreages for a suitable base. We also recommend consistent use of the terms “suitable” and “available.”

We greatly appreciate the opportunity to comment on this stage of the planning process and look forward to continuing our collaboration with you as the plan revision continues. If you have any questions on these or any of our past comments, please feel free to contact me.

Sincerely,

Marek K. Smith

Marek Smith
Director, Allegheny Highlands

Literature Cited

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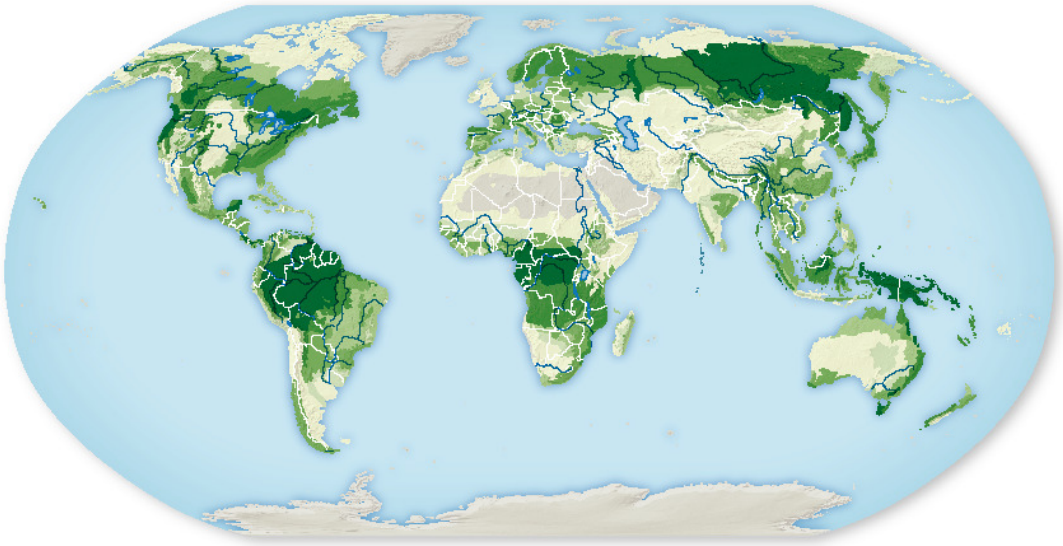

Figure 1: Percent forest area by terrestrial forest ecoregion (dark green to gray).
Source: Atlas of Global Conservation, 2010

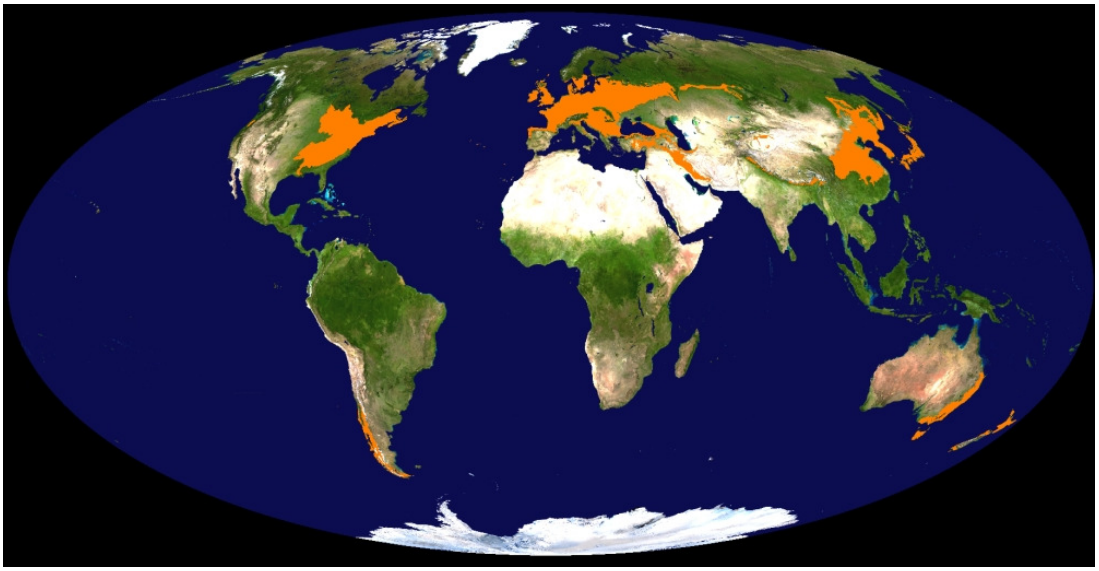

Figure 2: Global distribution of the temperate broadleaf forest biome (orange).
Source: The Nature Conservancy, 2009

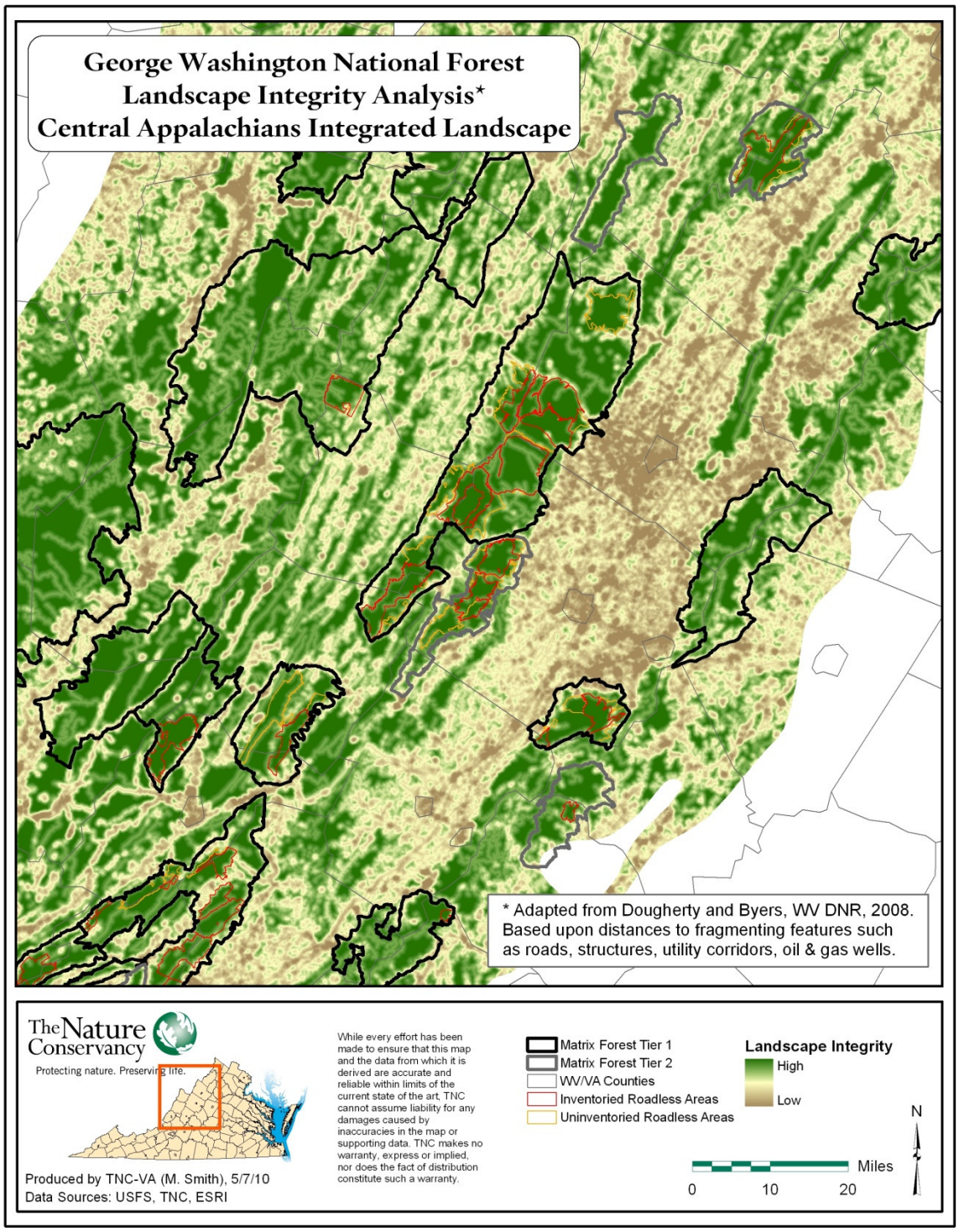

Figure 3: Landscape integrity analysis showing areas least (high integrity) and most (low integrity) disturbed by fragmenting features.

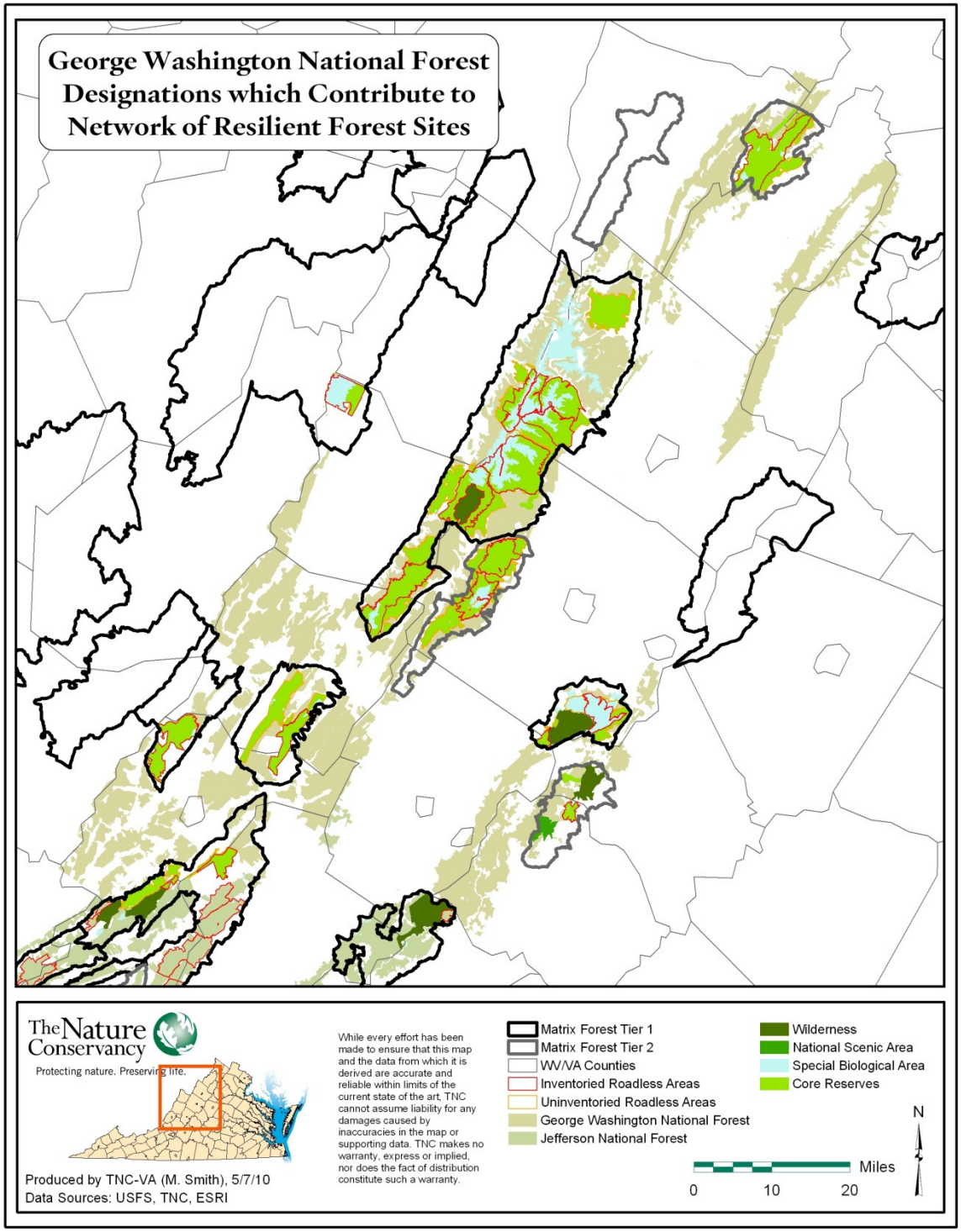

Figure 4: Core Reserves, Wilderness, and Special Biological Area designations which will conserve a **minimum** set of core biological areas and contribute to a network of resilient forest sites in the Central Appalachians.

Beth Fulton
<bfulton12@yahoo.com>

05/07/2010 09:18 PM

To comments-southern-georgewashington-jefferson@fs.fed.us,
cc comments-southern-georgewashington-jefferson@fs.fe
bcc
Subject Big Schloss

As a Virginia resident I have spent many weekends in GWNF hiking, camping and biking. I have enjoyed riding in the GWNF and want to continue to have that privilege. Please keep the Big Schloss and other GWNF areas open to recreational use.

Thanks,
Elizabeth Fulton

Bruce Ritchie
<mtnprivy@yahoo.com>

05/07/2010 09:41 PM

To "comments-southern-georgewashington-jefferson@fs.fed.us" <comments-southern-georgewashington-jefferson@fs.f

cc

bcc

Subject GW National forest plan

Dear GW Forest Managers,

I believe that the most important part of your new plan should be to apply a precautionary principal, FIRST DO NO HARM.

This should be applied to forest harvesting, which will remove valuable minerals from the soil , and also to gas drilling and any natural resource extractions. First do NO harm, and all else will follow. I feel that the evidence of damage to the water supply from natural gas extraction is ample, and logging has caused it's own problems. I feel that the least resources removed from our forests, the better. There is already mineral removal from acid rain, and logging will accelerate this depletion. Unless you are prepared to remineralize the soil, then it seems wise to eliminate tree harvest. Commercial tree harvest and gas extraction are both incompatible with good stewartship. First, do NO harm!

Bruce Ritchie.
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Sent from my iPod

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May 7, 2010

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Re: George Washington Plan Revision – Comments on Notice of Intent published 3/10/2010

Dear Ms. Hyzer and GW Plan Revision Team:

Thank you for the opportunity to comment on the Notice of Intent (NOI) to prepare an environmental impact statement and revised land management plan using the provisions of the 1982 National Forest System land and resource management planning regulations for the George Washington National Forest (GW), 75 Fed. Reg. 11107 (Mar. 10, 2010). Please accept the following comments on behalf of the Southern Environmental Law Center, the Southern Appalachian Forest Coalition, and The Wilderness Society.

We are glad that the GW will revise its plan under the 1982 National Forest Management Act (NFMA) regulations, as well as prepare an Environmental Impact Statement (EIS) for the plan and consult with the U.S. Fish and Wildlife Service (FWS). These important environmental reviews and protections have been missing from the plan revision, which was begun under the now-invalidated 2005/2008 NFMA regulations.

With the NOI, however, the GW has released a highly detailed, virtually complete draft revised forest plan. This plan is based on analyses conducted under those weak, invalid 2005/2008 regulations, rather than on the requirements of the 1982 regulations now governing the revision, such as maintaining fish and wildlife species population viability and identifying lands not suitable for timber production based on certain factors laid out in the rule. Moreover, the draft was developed before the NEPA process even began with this NOI and scoping period, without analyzing the environmental effects of the proposal and a range of reasonable alternatives. Highly relevant and significant issues which should drive alternatives, such as climate change, species viability and water resource protection, have not yet been studied. Our concerns about the premature development and proposal of a draft revised plan are described in detail below. Going forward, the GW must be very open to making major changes to this proposal based on the EIS analysis and proper planning under the 1982 regulations.

Regarding the draft plan itself, we still have many of the same concerns about its approach that we had in June 2009, when we commented on the direction the revision was heading then. We also want to highlight two additional issues. First, we have serious concerns

about the new proposal to increase the amount of land designated as suitable for timber production to 500,000 acres, from 350,000 acres in the 1993 plan. This major increase in land managed for timber production is proposed without any documented, publicly available analysis that we know of regarding that land's suitability for timber production as defined by the 1982 regulations.

Second, we welcome the decision to reevaluate the oil and gas leasing availability decisions. The 1993 plan made almost all of the GW (97%) available for federal oil and gas leasing. As discussed further below, we have significant concerns about the potential increased demand for natural gas development in the Marcellus shale and other formations underlying much of the GW. Such development using hydraulic fracturing has caused surface and groundwater pollution in other states. The EIS thoroughly should analyze the direct, indirect and cumulative impacts of such development on the GW, particularly on water quality and quantity, and should consider making all "full fee" lands (i.e. federal mineral ownership) unavailable for leasing. While the plan is being revised and the availability decision is being reevaluated in this EIS, we ask the Forest Service not to consent to any additional oil and gas leasing or development on the GW.

We submit detailed comments on these and certain other issues below, but they can be only a preliminary response to the vast documents posted to the plan revision website with the NOI. We look forward to continuing to participate in the revision process and to discussing these issues further with the Forest Service. Please keep us informed of all future developments regarding the GW plan revision.

TABLE OF CONTENTS

I.	**Environmental Analysis and Forest Planning Process, Significant Issues, and Alternatives**	**3**
II.	**Oil and Gas Leasing Availability Decision**	**13**
III.	**The NFMA Regulations Require An Analysis of the Management Situation**	**16**
IV.	**Timber Suitability Determination**	**16**
V.	**The Proposed Management Indicator Species Are Not Adequate**	**19**
VI.	**Old Growth**	**22**
VII.	**Strategies to Address Climate Change**	**25**
VIII.	**Fire: Wildland Fire and Prescribed Burning on the GWNF**	**31**
IX.	**Roadless Area Inventory, Protection, and Evaluation for Wilderness Recommendation**	**33**
X.	**Conclusion**	**55**

I. Environmental Analysis and Forest Planning Process, Significant Issues, and Alternatives.

A. The Forest Service has proposed the functional equivalent of a draft revised forest plan, potentially preempting, constraining and violating the NEPA and NFMA processes for environmental review, forest planning, and decision-making.

Taken together, the draft documents made available with the NOI on the GW's website form the functional equivalent of a draft revised forest plan. Not only has the Forest Service apparently already concluded what needs to change and identified the significant issues that will drive the revision, the agency has developed a highly detailed draft revised forest plan, complete with: forest-wide desired conditions, standards and guidelines; draft management prescriptions, also with desired conditions, standards, guidelines, suitability for various uses, and acreages allocated and mapped; land suitable for timber production identified and mapped; and recommended wilderness areas identified and mapped. Detailed maps of the proposed alternative and the other alternative (remote recreation and habitat) are posted to the website and were available at the recent public scoping meetings.

This essentially is the draft revised plan (or perhaps a somewhat fleshed out version of that draft) that was developed last year under the now-invalidated 2005/2008 National Forest Management Act (NFMA) regulations and almost released right before the 2008 rule was enjoined. Yet now the GW plan is to be revised under the substantively different 1982 NFMA regulations, an EIS will be prepared, and the Forest Service will consult formally with the U.S. Fish and Wildlife Service (FWS).

The current proposal was not developed under or to comply with the different (and more environmentally protective) substantive provisions of the 1982 rule, including the requirements to: maintain viable, well-distributed populations of fish and wildlife species; identify and monitor management indicator species (MIS); provide for diversity of plant and animal communities and tree species; and identify land unsuitable for timber production based on various factors laid out in the 1982 regulations, including economic cost. As discussed further below, it is not at all apparent that the proposal meets these substantive requirements, because we cannot see where the GW has documented analysis of them.

Moreover, additional or different needs for change or significant issues may be prompted by these or other aspects of the 1982 rules, by the EIS analysis, or through consultation with FWS. For example, the GW's proposal was developed without ever fully analyzing climate change issues. Although the NOI lists climate change as an issue previously identified, to our knowledge it was not analyzed at all prior to the January 2009 proposal upon which this draft is based and climate change considerations never have driven the proposed management objectives and land allocations, at least not to any significant degree. Now that an EIS will be done, climate change will need to be analyzed and considered, and alternatives should be developed to address it.

From a procedural standpoint, this draft was not developed according to the NEPA EIS process and to the 1982 NFMA regulations' forest planning process. These processes should be

concurrent where possible, and the alternatives developed and proposed (draft) revised plan should be a product of those analyses, which the current proposal is not.

This detailed proposal puts the "cart before the horse" of the NEPA analysis and decision-making process, circumventing the NEPA process of scoping, identifying and analyzing the issues, developing alternative ways of addressing them, making that analysis available to the public for informed comment, and then making decisions based on all of that information. See 40 C.F.R. § 1500.2(c) ("Integrate the requirements of NEPA with other planning . . . so that all procedures run concurrently rather than consecutively."); § 1501.2 ("integrate the NEPA process with other planning at the earliest possible time to insure that planning and decisions reflect environmental values, to avoid delays later in the process, and to head off potential conflicts. . . . Environmental documents and appropriate analyses shall be circulated and reviewed at the same time as other planning documents."); § 1501.7 ("There shall be an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action. . . . As soon as practicable after its decision to prepare an [EIS] and before the scoping process the lead agency shall publish a notice of intent. . .."); § 1502.5 ("The [environmental impact] statement shall be prepared early enough so that it can serve practically as an important contribution to the decision-making process and will not be used to rationalize or justify decisions already made. . ..").

The analysis of environmental effects "forms the scientific and analytic basis for the comparisons" of alternatives, which is the "heart of the environmental impact statement" and "should present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public." § 1502.14; § 1502.16. The GW has not yet analyzed environmental effects or developed and seriously considered any alternatives. The one alternative presented to the public to date is the extremely sketchy, factually inaccurate 4-page "More Emphasis on Remote Recreation and Remote Habitat Alternative" and its map (discussed further below), which were offered for the first time along with the numerous other documents posted to the website with the NOI.

The GW's approach also circumvents the NFMA forest planning process, which includes steps that build on one another, such as the analysis of the management situation (AMS) (discussed further below), the formulation of alternatives according to NEPA and to certain criteria in the NFMA regulations, the analysis of their effects, evaluation of alternatives, and then the recommendation of a preferred alternative and the proposal of a revised plan, with public participation throughout. See 36 C.F.R. § 219.6; § 219.12. The GW has bypassed all of this and gone straight to proposing a revised plan.[1]

In early February, before the NOI was released, The Nature Conservancy and several other organizations, including SELC, wrote to the GW's Planning Staff Officer expressing our concerns with the idea of releasing a highly detailed proposal with the NOI. See Letter from The Nature Conservancy, et al. to Ken Landgraf, GWNF (2/5/2010). Our concerns then were two-fold: (1) we believed it was premature to develop a virtually complete draft plan without

[1] While there certainly has been public participation in the plan revision prior to the NOI, the public has not had an opportunity to comment on the NEPA and 1982 NFMA rule analyses because those have not been done.

analyzing as-yet unaddressed issues (e.g., climate change), new obligations presented by the 1982 regulations (e.g., species viability), and environmental impacts and alternatives, and (2) we feared that the release of such a highly detailed proposal would constrain public scoping comments and future Forest Service planning. All of those concerns are only heightened now that the GW has released what essentially amounts to a draft plan – a set of even more detailed proposals than we anticipated in February.

The GW's March 25, 2010 Update attempted to backpedal, stating that the primary objective for this comment period is to identify significant issues and alternatives to drive the analysis that will be done in the EIS. The Update seemed to attempt to deflect attention from the detailed draft plan. This cannot repair, however, the problems with the GW's premature development and release of a draft plan.

We continue to believe it likely that the public naturally and inevitably will narrowly focus on responding to the proposals and information provided, thereby constraining public input, precluding both the identification of additional issues and, perhaps even more importantly, the development of alternative ways of addressing the issues identified, and essentially limiting environmental analysis and plan development to the current proposal.

Similarly, the Forest Service obviously has invested significant time and resources in this draft. We are concerned that the Forest Service will become attached to and entrenched in it, reluctant to rethink analyses which seem complete but were first performed under the auspices of other regulations or under another administration's policies, to fully assess new, unaddressed or incompletely addressed issues, or to seriously consider major changes to work the Forest Service may be invested in and view as almost finished. It will be extremely important for the agency to be willing to make the tough choices to revisit issues, address new issues, meaningfully and serious consider a range of reasonable alternatives, and make changes to its proposals based on the results of the environmental analysis or on the requirements of the 1982 rule. While information previously obtained in the planning process may still be useful, the 1982 rule and the EIS analysis must inform and lead to the development of alternatives and to a proposed revised plan, rather than attempting to retrofit previous analyses to justify outcomes already settled on internally.

The NEPA (and NFMA) processes are designed to prevent this type of *post hoc* analysis and to inform and lead to better decisionmaking, but that cannot happen if the process is short-circuited and decisions already have been made internally. See 40 C.F.R. § 1500.1(b) ("NEPA procedures must insure that environmental information is available to public officials and citizens before decisions are made. . .."); § 1500.1(c) ("Ultimately, of course, it is not better documents but better decisions that count. . . . The NEPA process is intended to help public officials make decisions that are based on an understanding of environmental consequences, and take actions that protect, restore and enhance the environment."); § 1502.1 (An EIS "is more than a disclosure document. It shall be used by Federal officials in conjunction with other relevant material to plan actions and make decisions."); § 1502.2(g) (EISs "shall serve as the means of assessing the environmental impact of proposed agency actions, rather than justifying decisions already made."); § 1502.5 ("The [environmental impact] statement shall be prepared early

enough so that it can serve practically as an important contribution to the decision-making process and will not be used to rationalize or justify decisions already made. . ..").

To use climate change as an example, now that the GW will prepare an EIS, the GW can and should fully analyze the likely effects (or range of effects) of climate change on the forest and consider alternatives that would improve the GW's ecosystems' resiliency and ability to adapt to them. We are glad to see the Summary of the Need for Change recognize that climate change is a developing issue that will require more attention. A climate change-oriented alternative might be quite different from the revised plan currently proposed. The GW must be willing to take a hard look at this issue and seriously consider such an alternative. The same can be said for fish and wildlife species population viability.

We are very concerned that all the planning information and draft documents released with the NOI are so strongly geared towards the GW's proposal, particularly at this early NOI stage. For example, it is telling and concerning that the GW is calling its proposal/preferred alternative the "Need for Change Alternative." This easily could suggest to the general public that other alternatives, such as the remote recreation and habitat alternative and hopefully other alternatives which will be developed, do not respond to the Forest Service-identified need for change or are not based on the agency's analysis, implying they are second-class or "out of the blue" alternatives, when instead those other alternatives represent different ways of responding to agency- and public- identified issues or needs for change. We are concerned that this approach to the alternatives will prevent serious consideration of other alternatives by both the public and the Forest Service.

Further, it is disturbing that, before conducting the environmental analysis in the EIS, the Forest Service has already made certain conclusions about environmental impacts. For example, the agency has concluded that forest fragmentation and road density are not significant concerns. See Summary of Need for Change at 2 (Mar. 2010); Draft Evaluation of the Need for Change at 5 (Mar. 2010). The EIS should assess the effects of forest fragmentation and of the road system (open and closed roads) on terrestrial and aquatic species, including effects of sedimentation from open and closed roads on water quality and aquatic species. The conclusions of the draft CER are absolutely no substitute for those reached in a proper EIS, which must meet certain basic NEPA sideboards for adequate analysis, disclosure and consideration of scientific information, including different points of view. See, e.g., 40 C.F.R. § 1500.1(b) (high-quality information, accurate scientific analysis, expert agency comments, and public scrutiny are essential); § 1502.1 (EISs "shall provide full and fair discussion of significant environmental impacts"); § 1502.9(a), (b) (agencies shall make every effort to disclose and discuss in draft EISs "all major points of view on the environmental impacts").

Moreover, the GW plan now will be revised under the 1982 NFMA regulations, which are substantively different from the 2005/2008 rules under which the revision was begun and this draft developed. All of the analysis performed to date and posted to the GW website, such as the ecosystem and species diversity reports and the aquatic sustainability analysis, explicitly is based on those now-invalidated 2005/2008 rules. The analysis is framed around the "sustainability" concept of the 2005/2008 rule, not the very different diversity and viability provisions of the 1982 rule. Now the 1982 rule applies, an EIS will be prepared, and the Forest Service formally

will consult with the FWS regarding threatened and endangered species. The Forest Service will need to be very careful to prevent this plan from being tainted by the illegal provisions of the 2005/2008 rule. For example, the 1982 rule's viability and other requirements must be fully embraced and met.

The GW will need to be very open-minded to changing its proposals, and all further planning must be well-grounded in the NEPA environmental analysis and in the procedural and substantive requirements of the 1982 NFMA regulations. As it stands now, the draft appears to be a freestanding, predetermined proposal/outcome that was not developed based on the required process, analyses and factors laid out in NEPA and NFMA and their regulations. If the GW continues to rush down the track towards this proposed plan, the plan may violate the NEPA and NFMA provisions cited above and be arbitrary and capricious, see Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43 (U.S. 1983) (agency decision arbitrary and capricious if agency did not examine relevant data and factors, relied on improper factors, or entirely failed to consider important aspect of problem).

A final note regarding the process: we believe the GW should provide an opportunity for a post-decision administrative appeal, rather than the pre-decisional objection process proposed in the NOI.

B. Significant Issues

The following issues (as well as any other issues raised elsewhere in these comments or in our prior comments on the plan revision, including in our August 2008 and June 2009 comments)[2] should be identified as significant issues and studied in the EIS and alternatives should be developed around them. Many of these have not yet been examined, or not adequately examined, in the revision process.

- Plant and animal species diversity, including direct, indirect and cumulative effects of various plan alternatives on diversity.
- Fish and wildlife species population viability, including direct, indirect and cumulative effects of plan alternatives on species viability, the identification of management indicator species (MIS) and the plan for monitoring MIS populations.
- Rare and at-risk species, including federally Threatened, Endangered, Sensitive and Locally Rare species, and species in need of conservation identified in the Virginia Wildlife Plan. Regarding federally listed species, we understand and are glad to hear that the Forest Service plans to formally consult with the U.S. Fish and Wildlife Service (FWS) regarding the plan revision. Indeed, we believe such consultation is required by the Endangered Species Act (ESA), 16 U.S.C. § 1536(a)(2), the consultation regulations at 50 C.F.R. part 402, and caselaw, see, e.g., Pacific Rivers Council v. Thomas, 30 F.3d 1050, 1053 (9th Cir. 1994); Lane County Audubon Soc'y v. Jamison, 958 F.2d 290, 293 (9th Cir. 1992). Among other issues, the Forest Service's biological assessment and the

[2] Throughout, we will refer to prior comments submitted Aug. 8, 2008, by SELC, The Wilderness Society (TWS), SAFC, the Virginia Wilderness Committee (VWC), and Wild Virginia as our "August 2008 comments." We will refer to prior comments submitted June 8, 2009, by SELC, SAFC, VWC, Virginia ForestWatch, the Sierra Club-Virginia Chapter, and TWS as our "June 2009 comments."

FWS' biological opinion should consider new information since previous consultations regarding the potential effects (including cumulative effects) on listed bats of white nose syndrome, wind energy and oil and gas development, and the GW's new proposal to expand the lands suitable for timber production (see also our August 2008 comments, pp.68-72).

- Old growth forest – all existing old growth should be protected. Old growth prescriptions are needed, as in the revised Jefferson National Forest (JNF) plan.
- Watershed protection, water quality and quantity, and aquatic habitat, including direct, indirect and cumulative effects on water quality and quantity (including drinking water quality) and on aquatic habitat (including habitat for rare species and native brook trout), and alternatives for improving water resources. Include analysis of effects of Forest Service road system on water quality and habitat and consider alternatives that would reduce those impacts. Address impaired streams (i.e. streams not meeting Virginia water quality standards) within or downstream of the Forest and consider how National Forest management could ameliorate those impairments or at least avoid contributing to them (see 33 U.S.C. § 1323, requiring federal agencies to comply with state water quality standards, which prohibits agencies from causing or contributing to violations of such standards). Need watershed management prescriptions for certain watersheds, including Source Water Protection, Reference Watersheds, Watershed Restoration Areas, and Aquatic Habitat Areas, as in the JNF plan.
- Climate change, including the direct, indirect and cumulative effects of climate change on the forest's ecosystems and alternatives for increasing the forest's resilience and adaptation to climate change and for mitigating the effects of climate change through carbon sequestration.
- Ecological restoration (see our August 2008 comments, pp.41-42, and our June 2009 comments, p.5).
- Recommendations for additional Wilderness, National Scenic Area (NSA) and National Recreation Area (NRA) designations, including a range of reasonable alternatives and analysis of the environmental effects of choosing not to recommend areas for wilderness designation and, therefore, not allocating them to the protective recommended wilderness study prescriptions. See California v. Block, 690 F.2d 753, 764 (9th Cir. 1982) (requiring site-specific evaluation of impact of not recommending wilderness designation upon each area's wilderness characteristics and value).
- Lands to be made available to BLM to lease for oil and gas development, including thorough, careful consideration of the direct, indirect and cumulative impacts of development using hydraulic fracturing in the formations underlying much of the GW.
- Lands available for special uses, including industrial wind turbine facility development. For the reasons detailed in our August 2008 comments, we continue to believe that the entire forest should be generally unsuitable for utility-scale wind turbine facility development, and the EIS should consider such an alternative.
- Identifying and planning to achieve the required "minimum road system" (see our Aug. 2008 comments, pp. 43-47, and June 2009 comments, pp. 4-5). Include disclosure of present extent of road system (i.e. all roads, including maintenance level 1-2 roads), road density (including achievement or non-achievement of 1993 plan standards/objectives), and maintenance backlog and maintenance costs. We also want to note here that the GW

should better explain its proposal to establish a mileage objective for high-clearance roads for OHV use (see Summary of Need for Change at 8) and consider the impacts.

- Ecosystem services, including the benefits of clean air and water, and the economic benefits from outdoor recreation and tourism on the GW.
- Lands suitable for timber production and timber harvest levels, including proper identification, according to the 1982 regulations, of lands suitable for timber production, as well as the full disclosure of the costs and receipts of the timber program (i.e. disclosure and assessment of the below-cost timber program, as well as the amount of unsuitable land planned for timber harvest and the reasons for said harvest).
- Establishing a monitoring program that requires clear, measurable objectives for management projects implementing the forest plan and that can measure the extent to which projects achieve their objectives.

C. Alternatives

As noted above, under NEPA, EISs must consider alternatives to the proposed action and federal agencies must "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." 42 U.S.C. § 4332(2)(C)(iii), § 4332(2)(E). Consistent with this statutory directive, the NEPA regulations require that

> Federal agencies shall, to the fullest extent possible: [u]se the NEPA process to identify and assess the reasonable alternatives to proposed actions that will avoid or minimize adverse effects of these actions upon the quality of the human environment.

40 C.F.R. § 1500.2(e) (emphasis added).

EISs must "provide full and fair discussion of significant environmental impacts and shall inform decisionmakers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment." § 1502.1. Adequate consideration of alternatives is the "heart" of the NEPA process because it defines the issues and provides a clear basis for choices among options by the decisionmaker and the public. § 1502.14. The Forest Service must "rigorously explore and objectively evaluate all reasonable alternatives. . ." § 1502.14(a). The failure to consider a "viable but unexamined alternative" will render a study inadequate. Dubois v USDA, 102 F.3d 1273, 1289 (1st Cir. 1996), cert. denied sub nom. Loon Mt. Rec. Corp. v. Dubois, 521 U.S. 1119 (U.S. 1997) (quoting Resources Ltd. v. Robertson, 35 F.3d 1300, 1307 (9th Cir. 1994)). Applying these principles requires that "[a]n agency must look at every reasonable alternative, with the range dictated by the nature and scope of the proposed action, and sufficient to permit a reasoned choice." Idaho Conservation League v. Mumma, 956 F.2d 1508, 1520 (9th Cir. 1992).

The 1982 NFMA regulations also require the consideration of certain alternatives, see 36 C.F.R. § 219.12(f).

The EIS for the GW plan revision must consider a range of alternative ways of responding to or addressing the significant issues, including recommendations for wilderness

designation, climate change, species viability, water resource protection, and the other issues listed above. We offer below some preliminary comments on the range of alternatives for the wilderness recommendations, climate change and species viability, and on the GW's remote alternative.

When considering a proposal to designate wilderness areas in a National Forest, the Council on Environmental Quality has explained that:

> "When there are potentially a very large number of alternatives, only a reasonable number of examples, covering the *full spectrum* of alternatives, must be analyzed and compared in the EIS. An appropriate series of alternatives might include dedicating 0, 10, 30, 50, 70, 90 or 100 percent of the Forest to wilderness." 46 Fed. Reg. 18026 (emphasis in original).

In California v. Block, 690 F.2d 753 (9th Cir. 1982), the Ninth Circuit found that the EIS for RARE II considered an inadequate range of alternatives because the Forest Service failed to "seriously consider an alternative that allocated more than a third of the RARE II acreage to Wilderness." Id. at 768. Although the EIS included extreme all wilderness, no wilderness, and no action alternatives, these alternatives were included as "points of reference rather than as seriously considered alternatives." Id. at 765. None of the other alternatives designated more than 33% of the RARE II acreage to wilderness. Id. The EIS should have considered designating as wilderness "a share of the RARE II acreage at an intermediate percentage between 34% and 100%." Id. at 766-67. The court also found the Forest Service skewed its alternatives away from wilderness without justifying the trade-offs it made. Id. at 768-69.

Therefore, the EIS for the plan revision must consider a reasonable range of alternatives for Wilderness designation. From the enormous pool of 378,229 acres in 37 areas[3] in the "potential wilderness inventory," the GW currently is proposing to recommend only about 20,000 acres for wilderness designation, in only one stand-alone area and three or four additions to existing wilderness areas.[4] This is only 5% of the areas evaluated for designation, a tiny fraction of those areas. Currently there are 42,674 acres of designated wilderness on the GW, or 4% of the 1,065,000-acre forest. Invty. & Eval. Working Paper at 25. The Forest Service's proposal would increase wilderness to about 62,674 acres or merely about 6% of the forest.

Only 6% of the Southern Region and 8% of the Southern and Eastern Regions combined are designated Wilderness. Invty. & Eval. Working Paper at 25. This is far below the national average of 18% of national forest lands designated as Wilderness. Although the GW's proposed recommendations would bring the GW in line with the average in the Southern Region, it would still fall below the average in Eastern forests generally. Moreover, Congress long has recognized the need to designate more wilderness in the East (see Eastern Wilderness Areas Act of 1975, Pub. L. No. 93-622, 88 Stat. 2096 (1975)), so the average 6% or 8% in the South or the East

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[3] There are 378,229 acres on GW/Jefferson in the "potential wilderness" inventory, or 372,631 acres on GW only.

[4] The Summary of the Need for Change proposes to recommend 20,000 acres of additional wilderness in a new Little River area and in additions to the existing Ramseys Draft, St. Marys and Rich Hole wilderness areas, while the draft management prescriptions document proposes those areas as well as an addition to the existing Rough Mountain wilderness area. The GW should clarify which areas they intend at this point to recommend.

should not be viewed as an adequate benchmark. A range of alternatives that would recommend substantially more wilderness is needed.

We were glad to see the "Emphasis on Remote Recreation and Remote Habitat Alternative."[5] This alternative starts to respond to public calls for substantially more wilderness and for protection of the Virginia Mountain Treasure areas, and starts to provide some alternatives and options for the decision-makers and public to choose among. However, by itself it cannot form an adequate range of alternatives.

The remote alternative would recommend a large amount of wilderness (200,000 acres, based on the GW's presentation at the recent public meetings). Another alternative that should be considered is one that tracks the robust, but somewhat more modest, proposals for wilderness, National Scenic Areas (NSA) and National Recreation Areas (NRA) offered by the Virginia Wilderness Committee (VWC) and by Friends of Shenandoah Mountain. Although the remote alternative contains elements of those proposals (and we appreciate that and are very glad to see them there), it does not entirely track them. An alternative that does so should be developed and considered. The VWC and Friends of Shenandoah Mountain proposals are very reasonable proposals that would provide a key point in the range of alternatives.

It is also important to highlight that those specific proposals themselves are very reasonable. Many of them were developed in cooperation with other forest users, including mountain bikers, with the aim of avoiding user conflicts and VWC remains committed to discussing and refining them collaboratively with other users.

Regarding the Mountain Treasure areas, we greatly appreciate the GW identifying an alternative that assigns the Virginia Mountain Treasure areas to some form of special management. Many of the Mountain Treasure areas contain SBAs and the other special prescriptions listed on pp.2-3 of the remote alternative document. It is not clear whether those prescription areas, if included in the Treasure areas, would still be allocated and mapped. We suggest that most of these should still be mapped and allocated to those special prescriptions which are tailored for specific resources or uses, such as the AT corridor, SBAs, Shenandoah Mountain Crest, Indiana Bat protection areas, and the smaller, highly developed sites such as existing communications sites, developed recreation areas, etc. Then, the remaining Treasure areas could be placed in prescriptions focused on recreation (e.g., remote backcountry or dispersed recreation-unsuitable) or in new prescriptions focused on ecological management (e.g., watershed prescriptions, old growth, or ecological restoration). The Mountain Treasure areas which are roadless areas (i.e. "Inventoried Roadless Areas" or "Potential Wilderness Areas") should be managed consistent with the 2001 Roadless Rule (discussed further below).

Because we believe that many of the special prescriptions listed on pp.2-3 are already included within the Mountain Treasure areas, which total about 602,432 acres (VMT at 15), we question whether the amount of land remaining for timber harvest would be as small as 150,000-

[5] We must point out that the chart of the alternative currently contains many incorrect acreage figures for these areas which need to be corrected (for example, Adams Peak, Big Schloss, Catback/Waterfall/Duncan Knob (which again seems to have been confused with the Southern Massanutten IRA), Little River, Rich Hole Addition, Saint Marys Additions, Southern Massanutten, Three Sisters, and many others too numerous to list).

200,000 acres. We also think the chart's pessimistic assessment of the remaining opportunities for creation of wildlife habitat ignores (1) the wildlife habitat provided naturally by these forests, including large tracts of remote, intact mature forest, and early successional forest in canopy openings created by natural disturbances and (2) the opportunities for prescribed fire and light management, other than large-scale commercial timber harvest, where appropriate within some of these areas.

An alternative that recommends substantial wilderness designations, protects roadless areas, and retains some realistic level of timber harvest also should be considered. Such an alternative would contain the wilderness, NSAs and NRAs proposed by VWC and Friends, and would manage all roadless areas (IRAs and newly identified) consistent with the 2001 Roadless Rule. This would contribute to the range of alternatives and would illustrate for the public and decision-makers that the trade-offs between wilderness and roadless area protection and the desired levels of active management and timber harvest may not be as large as depicted, for example, in the current version of the remote alternative.

The remote alternative or a similar one also should be further developed in a way that contains more recognition of the ecological values of remote, intact areas, as well as their recreational values.

It is also important to develop an alternative or alternatives oriented around climate change resiliency and adaptation and around species viability and diversity. The remote alternative might be further developed and refined to respond to these issues or another alternative might need to be developed. For example, climate change planning should provide for and protect core refuge areas (such as the core reserves or matrix forest blocks identified by TNC, as well as any other large or strategically important, intact forest areas), connecting corridors, and any additional areas that are important for ecological diversity and function, such as Special Biological Areas. Climate change planning should take into account the GW's ecologically significant role within the Central or Southern Appalachians.

In another example, it is not yet clear from the ecosystem and species analysis information whether the GW's proposed approach is likely to maintain or improve species viability and diversity. As these climate and species diversity and viability issues are analyzed in the EIS, responsive alternatives, including ones that would maximize climate change resiliency/adaptation and species diversity/viability, should be developed.

We look forward to commenting further on this alternative and others as they are fully developed.

GW staff have asked whether the public is interested in participating in meetings in June about alternatives. We generally believe the Forest Service should make the forest planning information that it has available to the public, so the public can understand where the agency is in the planning process and can comment on the agency's information and the direction the agency is heading with the revision, and should encourage public participation. We did disagree with the GW's approach to the NOI, however, because we believed that even the internal development, as well as the public proposal, of a virtually complete draft plan was premature and

bypassed the proper scoping, environmental analysis, and planning processes. Going forward, it probably would be useful to have public input on the concepts or basic parameters behind the alternatives to be analyzed and it might be possible to accomplish that in June. However, we cannot see how the GW staff will have completed enough of the environmental analysis by next month to present and compare alternatives in detail. Some alternatives might require a level of analysis not possible by June, for example, alternatives oriented around climate change or species viability. So, opportunities for additional, preliminary comment on somewhat more fully developed alternatives may be needed before solidifying those alternatives in the draft plan and EIS published for the 90-day comment period. Overall, going forward the GW should avoid perpetuating the problems with the planning process thus far, as discussed above.

II. Oil and Gas Leasing Availability Decision

The Summary of the Need for Change lists "re-evaluate the oil and gas leasing availability designations" as a main topic identified for change. Summary at page 7. The Notice of Intent, as well as the Draft Evaluation of the Need for Change (the modified Comprehensive Evaluation Report or CER), also list re-examination of the oil and gas leasing availability decision as an important topic for this plan revision. We agree that the availability designations need to change. Further, we believe the Forest must significantly enhance and upgrade its analysis of the potential for, possible extent of, and direct, indirect and cumulative effects of oil and gas development. We are encouraged that the Forest intends to conduct analysis on the availability decision in the EIS; we trust that it will be a robust analysis that mirrors the quality and depth of analysis had a separate EIS for leasing availability been prepared.

The 1993 Forest Plan and EIS did not and likely could not have anticipated the significant changes affecting oil and natural gas development that have taken place in the ensuing years. The Draft Evaluation of the Need for Change touches on the increased potential for natural gas development due to the presence of the Marcellus shale. We do not agree that current economic conditions will continue to limit oil and gas development as the Forest argues. Recent interest in leasing on both private lands within the GWNF proclamation boundary, interest in leasing Monongahela NF (MNF) lands just across the state border and interest in development of the Marcellus indicate an overall increase in leasing interest and potential development. While not the only formation on the Forest, the Marcellus shale has garnered a great deal of interest. As the attached maps "Marcellus Shale Underlying Virginia's National Forests" and "Marcellus Shale Underlying George Washington NF" (SELC 4/30/2010) show, the Marcellus overlaps the GW/JNF to a large extent, including large, ecologically critical areas such as Shenandoah Mountain. Finally, the revised plan will cover the next 10-15 years; that is the timeframe the Forest must use to assess potential development and its effects, not just the economic climate for development created over the last two years.

Among the changes in oil and gas development since the 1993 evaluation is the increase in the use of hydraulic fracturing, also known as hydrofracking. Hydraulic fracturing entails the use of large quantities of water. Estimates vary depending on the size and depth of the well, but four to seven million gallons of water per well is an often-used figure. In addition, wells are often fracked multiple times in order to maximize the resources extracted. These huge volumes of water are mixed with large volumes of chemicals and sand and then forced under high

pressure down the well in order to blow out the underground seams and increase the volume of oil and gas extracted. Unfortunately, due to a loophole in the Safe Drinking Water Act, the exact chemicals, amounts, and combinations are not known. The oil and gas industry has been allowed to treat this information as a trade secret despite a great deal of evidence that many dangerous and cancer-causing chemicals are being used (for further information, see, e.g., TWS paper "Hydraulic Fracturing – An Unregulated Danger to Our Nation's Drinking Water" (attached) and sources cited therein; Hydraulic Fracturing and the FRAC Act: Frequently Asked Questions (includes background information re hydraulic fracturing) (attached); summary by Amy Mall, NRDC, of incidents where hydraulic fracturing is a suspected cause of drinking water contamination, at http://switchboard.nrdc.org/blogs/amall/incidents_where_hydraulic_frac.html). Not all of the fracturing fluids are returned to the surface (which presents another set of problems), those that are returned come back heavily contaminated and must be treated at one of a limited number of water treatment facilities or land applied, to often disastrous results as recent events on the MNF can attest (see, for example, PEER press release at http://www.peer.org/news/news_id.php?row_id=1167 (3/11/2009)).

Lest the Forest Service think that the water volumes and myriad problems associated with hydraulic fracturing are limited to Marcellus shale wells, recent industry testimony paints a more accurate picture. The Independent Petroleum Association of America (IPAA) pointed out in their recent written comments to the Environmental Protection Agency (EPA) Science Advisory Board, "The IPAA represents the thousands of independent oil and natural gas producers that develop 90 percent of U.S. wells and produce over 80 percent of U.S. natural gas. Approximately 90 percent of these wells now require the use of hydraulic fracturing."[6]

The clean water used at the start of the hydraulic fracturing process must come from somewhere and the industry is likely to look to the streams and rivers on the forest. Water withdrawals in other parts of the country have had severe effects on lakes, streams, rivers and reservoirs. Aquatic life, as well as local residents, have been severely affected. The GWNF must examine the full lifecycle of the hydraulic fracturing process, from the examination of water sourcing issues at the beginning of the process to contamination from fracking fluids used in the oil and gas extraction phase to proper treatment and disposal of these fluids at the end of the process.

So too, the GWNF must examine the effects of hydraulic fracturing on water quantity and quality for both the towns that rely on the Forest as a drinking water source and those citizens who rely on individual water wells to supply their drinking water needs. The attached map "Marcellus Shale, Drinking Water Supplies, and Trout Streams, George Washington National Forest," (SELC 4/30/2010) shows the towns that rely on the GWNF for safe clean drinking water. Clearly the drinking water supply watersheds, as well as important recreational or ecological areas, including but not limited to the riparian corridor, eligible wild/scenic/recreation river corridors, special biological areas, Shenandoah Mtn. Crest, research natural areas, and roadless areas, all of which are proposed to be available for leasing (see GWNF Chart of Suitable Use by Mgmt. Prescription Area (2010)), are especially inappropriate for oil and gas development.

[6] IPPA comments to the Science Advisory Board Staff Office dated March 28, 2010.

Assessing the effects of hydraulic fracturing will be complicated by the presence of karst landscapes (see attached map "Marcellus Shale and Karst Underlying George Washington National Forest" (SELC 4/30/2010)). Karst is "the term used to describe a special style of landscape containing caves and extensive underground water systems that is developed on especially soluble rocks such as limestone, marble and gypsum…Experience shows that many hydrogeologists mistakenly assume that if karst landforms are absent or not obvious on the surface, then the groundwater system will not be karstic. This assumption can lead to serious errors in groundwater management and environmental impact assessment, because karst groundwater circulation can develop even though surface karst is not apparent."[7] Karst is typified by seeps, springs, sinkholes, sinking streams and caves. Hydraulic fracturing in karst increases the risk of contamination to groundwater supplies and, where springs and seeps exist, risks surface water contamination as well.

The analysis for the 1993 plan focused on the impacts of surface occupancy for oil and gas development (e.g., well-pads, access roads, etc.) and on the degree of surface occupancy which would be permitted across the forest. Now, this EIS also must consider these additional, more wide-ranging impacts on water resources (surface- and ground- water) and underground features (such as karst and caves). Further, gas development using hydraulic fracturing requires transport of very large volumes of water, sand and chemicals in many very large trucks making repeated trips just to supply one well. If sand and water are sourced locally they would compete with and pose serious threats to local water supplies, trout streams and other aquatic resources..

The GWNF has discussed the importance of maintaining water quality for downstream users. Many of these same users have commented to the GWNF and passed resolutions on the importance they attach to protecting water quality. Assessing the effects of activities in the riparian zones alone will not adequately address protection of water quality or quantity. The Forest must assess the potential threats to water quantity, quality and aquatic organisms and resources from oil and gas development. In addition to drinking water supplies, Marcellus shale underlies many of the Forest's best trout streams and special biological areas, to illustrate two of the many important ecological resources at stake, particularly aquatic resources (see attached map "Marcellus Shale, Drinking Water Supplies, and Trout Streams, George Washington National Forest"). For an overview of the many issues that must be considered in analyzing the availability decision, see "The Economic and Social Impacts of Oil and Gas Development" (TWS, June 2006) (attached). Though western in focus, it provides a good overview of the range of topics that must be covered in a complete analysis.

These serious concerns about the effects of gas development using hydraulic fracturing on national forest resources lead us to request that the Forest consider administrative withdrawal of all (full fee, i.e. federal mineral ownership) GWNF lands when analyzing the availability decision. At a minimum, it defines one end of an adequate range of alternatives which must be considered in the EIS. It also represents the potential maximum the GWNF can do (from the leasing standpoint) to ensure protection of drinking water resources and water quantity and quality on the Forest. Clean water is already a concern and is likely to grow in importance over the plan period.

[7] *Karst Hydrogeology and Geomorphology*, Derek Ford and Paul Williams, 2007 John Willey & Sons, Ltd, pg 1

We therefore believe the Forest should consider and analyze a Forest Plan alternative that maximizes watershed, specifically aquatic, functioning and drinking water quantity and quality. Such an alternative would administratively withdraw all (full fee) lands from leasing, identify a minimum road system with an aggressive focus on eliminating sources of sediment introduction and other problems to water resources by decommissioning unneeded roads and roads causing sedimentation, focus on in-stream habitat functioning and restoration, and minimize other forest uses that might degrade or otherwise fail to enhance water resources.

III. The NFMA Regulations Require An Analysis of the Management Situation.

The 1982 NFMA regulations explicitly require the Forest Service to prepare an Analysis of the Management Situation (AMS) when initiating plan revision. § 219.12(a). An AMS is a determination of the ability of the planning area to supply goods and services in response to society's demands. § 219.12(e). Its primary purpose is to provide a basis for formulating a broad range of reasonable alternatives. Id. The benchmark analyses, overviews, and projections in the AMS also play a key role in determining the needs for change. § 219.12(e)(5) (determine the need for change "[b]ased on consideration of data and findings developed in [the AMS]"). Accordingly, the AMS is a necessary component in determining the needs for change, and the GW cannot make a proper, adequately supported decision regarding the needs for change without it. The data and findings mandated for inclusion in the AMS also are needed for other planning analyses, including the development of alternatives.

The Comprehensive Evaluation Report[8] ("CER") apparently is the principal document supporting the needs to change identified thus far by the GW, as well as the GW's draft plan proposing that "Need for Change Alternative." NOI, 75 Fed. Reg. 11107, 11109 (Mar. 10, 2010) ("information from [the CER] was used to help identify the need for change and the preliminary proposed actions"). However, the CER was developed under the 2005 and 2008 NFMA rules, which were invalidated and under which no AMS was required. See Citizens for Better Forestry v. U.S. Dept. of Agriculture, 481 F.Supp.2d 1059 (N.D. Cal 2007); Citizens for Better Forestry v. U.S. Dept. of Agriculture, 632 F. Supp. 2d 968 (N.D. Cal 2009).

The GW acknowledges that it has not yet complied with the AMS provision. ("[The CER] analysis will be updated with additional information to meet the requirements of the AMS provisions of the 1982 rule.") 75 Fed. Reg. at 11109. Although the CER identifies factors affecting conditions and trends in the GWNF, states various needs for changes to management direction, and describes the effects suggested changes would have on moving toward desired conditions, that analysis does not contain the mandatory, minimum requirements for AMS. Instead, the GW again has put the horse before the cart, as with the NEPA process, by determining the needs to change, and fully developing a draft revised plan that embodies those changes, before developing the requisite AMS under which those determinations are to be made.

IV. Timber Suitability Determination

Once again, as discussed above, the Forest has gotten ahead of itself in proposing estimations of lands suitable for timber production at the NOI stage prior to public involvement

[8] The CER has since been updated, and the title has been changed to: "Draft Evaluation of the Need for Change."

under NEPA. The GWNF potentially is prejudicing the outcome of the timber suitability determination in favor of a greatly expanded suitable land base, all while having failed to complete some of the most critical steps in the determination process; steps which will likely significantly reduce the suitable base rather than increase it. Further, the Forest has arrived at these figures after making a decision as to where management areas would be laid out, yet another significant plan decision under the 1982 regulations which should be the subject of unbiased public involvement.

This revised plan is off to a concerning start, having set public expectations of the outcome at the NOI stage. Having done this, the Forest must pay extra attention to clearly and openly explaining the timber suitability determination process, including the requirements of the 1982 regulations, as the revision process moves along. This disclosure should not be buried only in Appendix B of the draft EIS, as the agency often does.

The evaluation of the need for change discusses the suitability review, but is written from the perspective of the now illegal 2005 and 2008 planning rules. Discussion of lands suitable for timber production, as opposed to those suitable for timber harvest, are a significant new feature of those rules and not applicable to plans created under the 1982 planning regulations. The GWNF must correct this analysis soon as part of the Analysis of the Management Situation (AMS) process and provide the public an opportunity to comment on accurate analysis.

There is also a great deal of inconsistency between the information and likely size of the suitable timber base presented in the Draft Evaluation of the Need for Change and the material presented at public meetings and in the Summary of the Need for Change. The Draft Evaluation discloses a likely suitable base similar in size to the current suitable base. In public meetings and the summary, the Forest has disclosed interest in a much larger suitable timber base. These inconsistencies must be resolved.

Regardless of the current inconsistencies, there is a clearly defined process for determining suitable timber lands that must be followed. The 1982 NFMA regulations at 36 CFR § 219.14 are explicit. The timber suitability determination can be thought of as a three-step process. In the first step, defined in §219.14(a), lands in the following categories are identified as not suited for timber production if: "1) The land is not forest land as defined in §219.3; 2) Technology is not available to ensure timber production from the land without irreversible resource damage to soils productivity, or watershed conditions; 3) There is not reasonable assurance that such lands can be adequately restocked as provided in 219.27(c)(3) and; 4) The land has been withdrawn from timber production by an Act of Congress, the Secretary of Agriculture or the Chief of the Forest Service.

These steps parallel those taken by the Forest Service in Appendix C: Review of Lands Not Suited for Timber Production which appears on the GWNF web site. We take issue with the change in determination for steep slopes and previously inaccessible lands due to the use of helicopter logging. While this change may be appropriate in some locations, one cannot equate the ability to remove timber via helicopter logging with automatic inclusion as suitable land. Helicopter logging does not guarantee that steep slopes are not subject to increased erosion that could result in irreversible resource damage, nor does it guarantee that once timber is removed

from these steep and previously accessible areas that soil conditions will remain amenable to reasonable assurance of adequate restocking. The provisions for timber suitability under subpart (a) are not just about safe and efficient removal of trees but about what would happen to the land afterwards and whether adequate conditions for future growth and ecosystem health can be maintained. The determination of suitability for these lands must be examined from this perspective. This is where the determination of timber suitability conducted to date on the GWNF seems to have left off.

The second step in the timber suitability process is defined at 36 CFR §219.14(b). Here, prior to the formulation of alternatives, the forest must review those lands other than those identified as not suited for timber production in paragraph (a). These still potentially suited lands are reviewed and assessed to determine the costs and benefits for a range of management intensities. These lands must be stratified into categories of land with similar management costs and returns. Appropriate factors that influence costs and returns, such as physical and biological conditions and transportation requirements, should also be considered. The regulations are explicit in their definition of direct benefits (at §219.14(b)(1)) and direct costs (at §219.14(b)(2)) that must be used in this analysis. In addition, the costs and returns of managing the existing timber inventory must also be included (see §219.14(b)(3)).

This step does not appear to have been done yet. This is as it should be, as this is a step in the process usually carried out during the DEIS formulation process after initial public involvement under NEPA at the NOI stage. This makes it all the more problematic that the Forest has presented an incomplete estimation of timber suitability at this stage of the process, without putting it in context.

In addition, this step can only be accurately completed after the Forest has identified its minimum road system under 36 CFR §212.5(b). Decisions made about the minimum size of the forest road system will be critical in determining transportation requirements under the timber suitability determination.

The final step in the timber suitability process is defined at 36 CFR §219.14(c). In this step, alternatives are evaluated to consider the costs and benefits of alternative management intensities for timber production. At this stage, lands shall be tentatively identified as not appropriate for timber production if under an alternative they meet any of the following conditions: 1) the land is proposed for resource use, such as wilderness, that precludes timber production; 2) other management objectives for the alternative limit timber production to the point where management requirements (defined at §219.27) can't be met and; 3) the lands are not cost-efficient over the planning horizon, in meeting forest objectives, which include timber production. This last requirement is likely to limit or decrease the size of the suitable timber base on the GWNF, given forest costs and revenues. It will be essential to accurately and realistically calculate costs and revenues and to disclose them to the public. Finally, lands tentatively identified as not appropriate for timber production in (c) are added to land not suited for timber production identified in (a) and collectively are identified and designated as not suitable for timber production in the preferred alternative.

We look forward to reviewing the determination of timber suitability as it is completed as well as the modeling and estimation of the allowable sale quantity (ASQ). We'll also be interested in the amount of harvest proposed on those lands where harvest may take place for other plan multiple use objectives and the reasons for said proposed harvest.

V. The Proposed Management Indicator Species Are Not Adequate.

Under the NFMA, the Forest Service must provide for the diversity of plant and animal communities. 16 U.S.C. § 1604(g)(3)(B). The NFMA regulations further direct the agency to manage fish and wildlife habitat "to maintain viable populations of existing native and desired non-native vertebrate species in the planning area." § 219.19. To insure species viability, the Forest Service must select and monitor populations of management indicator species ("MIS") during plan implementation, in order to assess the effects of management activities on their populations and the populations of other species with similar habitats. § 219.19(a)(1),(6). MIS should be biologically relevant and representative of the forest's major biological communities, as well as rare species and species with special habitat needs.

Under the 1993 Plan, the GW had 23 MIS. Now the Forest Service is proposing to delete most of them and to adopt the 13 MIS from the Jefferson National Forest (JNF) (with the substitution of the GW's endemic Cow Knob Salamander for the JNF's endemic Peaks of Otter Salamander). Those 13 species consist of three game species to indicate hunting demand, eight birds, one endemic, protected salamander, and "wild trout," which includes stocked rainbows and browns, as well as the native brookie.

These MIS are a very limited assortment of species that do not adequately represent the variety of species and biological communities found on the GW and seem unlikely to indicate forest-wide, long-term, and cumulative effects of management on those species and communities. In fact, there is nothing in the GW's Draft Evaluation of the Need for Change to indicate that: (1) the choice of MIS reflects a deliberate selection of species to indicate fish and wildlife species viability; (2) the MIS chosen will reflect the effects of management activities on species viability; or (3) the proposed MIS adequately will represent the categories of MIS described in the regulations. The GW should add appropriate MIS in order to meet the requirements of the MIS regulation and to fulfill the intent behind the MIS program.

A. No adequate rationale for the selection of MIS has been provided.

The GW has not yet offered adequate reasoning for its selection of proposed MIS, as required by the NFMA regulations. § 219.19(a)(1) ("Species shall be identified and selected as management indicator species and the reasons for their selection will be stated.") (emphasis added). The only rationale given for the proposed MIS is that "A complete analysis of MIS was done for the Jefferson Forest Plan. Since the Jefferson and George Washington are administratively combined and share common issues and management direction, it would be more efficient to have the same MIS," with the substitution of the salamanders. GWNF, Draft Evaluation of the Need for Change at 48.

First, we believe that the JNF's selection of MIS was not adequate and we challenged it in administrative appeals of the revised JNF plan. So, of course we object to the assumption that those MIS are sufficient for the GW as well.

Second, the viability requirement is specific to the planning area, in this case, to the GWNF, so it follows logically that MIS must represent the range of species and biological communities on the GWNF. The Forest Service needs to consider whether the JNF's MIS are good representatives of the range of GWNF's species and communities, rather than assuming they will be because the two forests share common issues and management direction.

Third, the GW has not justified the proposal to abandon many of the current GW MIS. There is no reasoned analysis for the elimination of over half of GWNF's current MIS and for the overall reduction in the number of MIS selected. Of the GW's 23 MIS, 16 would be deleted (17 counting brook trout, which would be subsumed into the larger "wild trout" category). In most cases, it is not clear whether or how the former GW MIS or their communities will be represented by the new JNF MIS. The effect of lowering these monitoring safeguards on the GW's species viability and ecological diversity needs to be acknowledged and considered in the EIS.

B. The proposed MIS do not represent the categories of species enumerated in the NFMA regulations.

From the chart of proposed MIS in the Need for Change document, pp. 48-49, it is apparent that these MIS represent only overly broad categories (e.g. mature riparian forest and oak pine forest communities), overly narrow categories (e.g. the Cow Knob Salamander, a very narrow endemic species), and management specific outcomes (e.g. game species to meet hunting demand). These MIS do not represent all the categories set forth in the MIS regulation and the GW has not explained why those categories are unrepresented:

> "In the selection of [MIS], the following categories shall be represented where appropriate:
>
> (1) endangered and threatened plant and animal species identified on State and Federal lists for the planning area;
> (2) species with special habitat needs that may be influenced significantly by planned management programs;
> (3) species commonly hunted, fished, or trapped;
> (4) non-game species of special interest; and
> (5) additional plant or animal species selected because their population changes are believed to indicate the effects of management activities on other species of selected major biological communities or on water quality."
>
> § 219.19(a)(1).

None of the proposed MIS are endangered or threatened and not a single plant species been identified as an MIS. Moreover, the proposed MIS do not appear to represent most of the GW's biological communities or they only partially address the habitat or particular management issue in that habitat. No explanation is provided for whether or how the proposed MIS represent the 20 biological communities identified by the Forest Service within the GWNF. See Forest Service, Draft Ecosystem Diversity Report, p. 7 (listing "ecological systems" which "represent recurring groups of biological communities" in the GWNF.). Overall, the relationship between the ecosystem and species diversity reports and the selection of MIS is not explained. The

ecological analysis should lead to the selection of MIS to monitor the condition of the communities and species identified therein.

Regarding water quality and aquatic species, only one MIS is proposed for water quality, the "wild trout," which, as discussed below, includes stocked species which are unlikely to be good indicators of other species' populations. Even the native brook trout, an MIS in the 1993 Plan which should be retained in the revised plan, can only represent those aquatic habitats in which it is found. In smaller stream reaches that do not support trout, additional species sensitive to sediment pollution and other water quality impacts should be designated as MIS.

C. The proposed MIS are unlikely to reliably indicate the effects of management activities.

MIS shall be selected because their population changes are believed to indicate the effects of management activities on important elements of plant and animal diversity. § 219.19(a)(1). Yet most proposed MIS are generalist species not clearly linked to any specific habitat or ecosystem component. Generalist species have broad niches and can tolerate relatively large changes in environmental conditions. As a result, the effects of management activities on generalist species tend to be much less pronounced than on more specialized or less tolerant species. It could not be assumed that populations of rare species or species with special habitat needs are increasing or stable just because a generalist species is increasing or stable.

Further, all but two of the 13 proposed MIS are large mobile mammals and birds whose populations are affected by habitat conditions and activities beyond the GWNF and whose mobility allows them to avoid some negative effects of GWNF management activities. So, their populations may be less affected by management actions than the populations of species with little or no mobility. Of those 11, three also are secure game species (black bear, wild turkey, and white-tailed deer) with broad habitats, which are offered as MIS only for hunting demand.

Consequently, the population trends of most proposed MIS seem unlikely to indicate the full effects of management on other affected species. These proposed MIS may be fine representatives of certain elements, but the GW should recognize their limitations and fill in the gaps with more sensitive species, as well as less mobile species (for example, site-sensitive creatures with limited motility such as salamanders or flightless invertebrates).

The other two MIS are the Cow Knob Salamander and "wild trout." The Cow Knob Salamander ("CKS") has an extremely limited range and its habitat is protected by a conservation agreement. As a result, its population trends likely do not indicate the effects of logging, road-building and other actions elsewhere in the Forest on other salamanders or species. While the CKS should be retained as an MIS so that its own populations are monitored, other salamander species should be added as MIS. Terrestrial salamanders "have unique attributes that make them excellent indicators of biodiversity and ecosystem integrity in forested habitats." Hartwell H. Welsh, Jr. and Sam Droege, A Case for Using Plethodontid Salamanders for Monitoring Biodiversity and Ecosystem Integrity of North American Forests, 136 Conservation

Biology, Volume 15, No. 3, p 558-569, 558 (June 2001) (available at http://www.fs.fed.us/psw/rsl/projects/wild/welsh/welsh13.pdf).[9]

Regarding "wild trout," two of the three species of "wild trout" (rainbow and brown trout) are stocked, introduced species. Species whose populations are manipulated artificially through stocking do not appear to be reliable indicators of the effects of Forest Service land management on water quality or on other aquatic species which rely solely on natural reproduction for their continued existence.

VI. Old Growth

A. Compliance with Old Growth Guidance

The documents provided as Scoping Background Materials at: www.fs.fed.us/r8/gwj/forestplan/revision/plan-home.shtml (e.g., Forest Wide Standards and Forest Objectives) refer to Regional Old Growth Guidance (*Guidance for Conserving and Restoring Old Growth Forest Communities on National Forests in the Southern Region* (Forestry Report R8-FR 62, June 1997)). However, there is little rationale or justification for how or why the specific objectives or standards listed implement the R8 OG policy. Rather, standards and objectives appear plucked from the R8 guidance without proper context or discussion.

Further, while the standards and objectives in background materials address some of the requirements for OG contained in the Regional Guidance, there is a fundamental disconnect between these items and any process to develop these approaches. As pointed out elsewhere in these comments (see Environmental Analysis and Planning Process, Significant Issues and Alternatives section), the background materials essentially make up a highly detailed draft revised forest plan, complete with: forest-wide desired conditions, standards and guidelines. The materials appear to provide materials appropriate to later stages in the planning process without adequately engaging these issues with the public. This is in contrast to the R8 OG Guidance that outlines a process for seeking public involvement in addressing the old growth issue.

> The protection, restoration, and management of old-growth forests through an ecological approach is an important issue to many public interests and is a major concern to national forest managers. National forests should actively seek public input and participation while addressing this issue. During this involvement, national forest managers should begin to understand the public's perception of old-growth forests and their values. Other Federal agencies, State agencies, non-governmental organizations, and academia must be included when developing issues and strategies for old-growth forests. After the public scoping process and following the issuance of the notice of intent (NOI) to revise forest plans, the national forests will clarify and define the old-growth issues for each forest plan. The clarification should include land allocation concerns, biological values and requirements, and social values. Public involvement will be important in

[9] Salamanders' "longevity, small territory size, site fidelity, sensitivity to natural and anthropogenic perturbations, tendency to occur in high densities, and low sampling costs mean that counts of [terrestrial] salamanders provide numerous advantages over counts of other North American forest organisms for indicating environmental change." Welsh and Droege, supra.

determining the areas to be allocated to old growth in the forest plan alternatives and in developing the desired future conditions and objectives.[10]

B. Developing a Network of Old Growth Areas

Elements of an old growth network are mentioned throughout the scoping background materials. However, the old growth network suggested in these references is inadequate under the R8 Guidance, fails to discuss and disclose issues where choices seem to have already been made, and has fundamentally left the public out of any process of developing an old growth network.

The old growth network suggested in the background materials consists of large, medium, and small patches as directed in the Guidance. However, there is no rationale for how and why the elements of this network are chosen or how the network addresses old growth issues or public concerns. The reliance on wilderness and recommended wilderness as the large patches seems arbitrary. It is flatly stated that the old growth network addresses distribution and representation issues, but no analysis is presented to substantiate this assertion. It is also unclear how medium and small old growth patches are to be selected during plan implementation to complement large patches and create an old growth network. There seems to be conflation of existing old growth with the initial inventory of potential old growth in discussing old growth patches.

C. Confusion of the concepts of Old Growth and mature forest

The background materials frequently use the concept of mature forest as virtually synonymous with old growth. Mature forest, variously described in the background materials as forest greater than 60 years and forest greater than 80 years is fundamentally different than old growth. But the background materials promote a conflation of these concepts. For instance the background document describing "Desired Conditions" makes this statement: "Mature or late seral forests are considered to be those forests that are in the later stages of succession and are generally synonymous with old growth. " [11] However, it is clear from the old growth guidance and associated literature that most mature forest does not and will not qualify as old growth for long periods of time. Age, structural, and other criteria distinguish old growth from "mature forest". Even much of the preliminary inventory of potential old growth will likely not qualify as existing old growth. It may have stand age that indicates old growth but recorded stand ages are frequently incorrect and this says nothing about structural diversity and other characteristics.

The literature cited in the old growth guidance makers it clear that most Southern Appalachian old growth forest is all-age forest as opposed to the even-aged mature forest typical of current national forest lands.

This is an important distinction for a number of reasons. Foremost is the fact that most mature forest is not quality "existing old growth" and will not be for many decades or centuries

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[10] *Guidance for Conserving and Restoring Old Growth Forest Communities on National Forests in the Southern Region* (Forestry Report R8-FR 62, June 1997. p. 11-12.

[11] "Forestwide Desired Conditions," Draft – February 2010, p. 15

until it has substantially recovered not only age characteristics but structural diversity and an all-age composition. Treating mature forest in general as recovering old growth inflates what will qualify as existing old growth under R8 OG criteria. Secondly, this conflation ignores the fact that true quality existing old growth is one of the most under-represented forest components while mature forest 60 years and older is among the most abundant. Lumping and conflating mature forest with old growth forest hides this rarity of quality old growth and masks the need to conserve existing old growth. Finally, treating mature forest as forest that will soon be old growth ignores the distortion in age structure and structural diversity that has occurred as a legacy of past management and fails to recognize the restoration tasks that should be a major part of the forest plan. The background materials treat the existing blocks of even-aged forest as a natural condition rather than recognize that this condition is a distortion of natural conditions that should be addressed through restoration while conserving the remaining old growth forest and forest that has legitimately largely recovered.

D. Existing Old Growth

The background materials give acreage objectives for different old growth types. [12] These figures are apparently based on preliminary inventory of old growth based on stand age. There are inherent problems in this approach as detailed in Section C above. The background materials also detail Forest-wide standards for existing old growth.[13] This standard specifies:"Consider the contribution of identified patches to the distribution and abundance of the old growth community type and to the desired condition of the appropriate prescription during project analysis." However, it is not at all clear how the distribution and abundance of old growth community types would be assessed since most of the data that would be used is stand age derived potential old growth. It is also not clear how patches of existing old growth identified at the project level would necessarily complement the large patch old growth consisting of wilderness and recommended wilderness to create an old growth network. There is no analysis or justification to lead the public to have confidence that this scheme would have the representation or distribution to satisfy R8 OG Guidance.

The standard (FW-77) further strains public credulity by stating that: "For purposes of project planning, the following forest types are considered well-represented in the current inventory of existing old growth for the George Washington National Forest: the Dry Mesic Oak Type and Dry & Dry-mesic Oak-pine Forests and may be cut through resource management activities."[14] This statement despite being followed by this statement in FW-78: "NOTE: Because there is no current old growth inventory on the GWNF that has been field verified…..".[15] Clearly the standard is being based on the assumption that possible old growth derived from stand age is equivalent to existing old growth. This would likely lead to the cutting of good quality existing old growth because of the unwarranted assumption that old growth of these forest types is well represented. This assumption is almost certainly incorrect for much of the initial inventory of potential old growth for the reasons detailed in Section C above. At this

[12] Forest Objectives – Need for Change, p.3
[13] Forest-wide Standards, FW-77 p 9
[14] Ibid
[15] Forest-wide Standards, FW-78 p 9

point the rationale for the forest's old growth network and the approach to existing old growth is circular and based on faulty assumptions and information.

VII. Strategies to Address Climate Change

A. Climate Change Trends and Strategies Document

The GWNF's Climate Change Trends and Strategies document acknowledges some of the specific management strategies needed to address climate change. Many of these would be good strategies, and the document is generally a good start at a framework to address climate change. However, the document is very general and non-specific to the forest, and it leaves the strong impression that the document would be unlikely to lead to standards and objectives relating to climate mitigation or adaptation in the Forest Plan. There is little real analysis, particularly forest specific analysis, discussed in the document relating to climate. See Section D below for specific analysis suggested to inform a climate strategy for the Forest Plan. The life of the Forest Plan is 10 – 15 years or longer. Actions will need to be taken within this time frame to address both climate mitigation and adaptation issues. Adaptive management is appropriate to address climate change, but detailed analysis to inform a strong climate adaptation and mitigation program for the Forest Plan is essential.

Effectively incorporating climate change into the planning process is an essential element for identifying and implementing appropriate adaptation strategies. For example, the Report by the U.S. Climate Change Science Program and the Subcommittee on Global Change Research[16] makes this assessment:

> *Incorporating climate change into the USFS planning process is an important step that could be taken now to help identify suitable management adaptations as well as ecological, social, and institutional opportunities and barriers to their implementation.*
>
> *Planning processes that include an evaluation of vulnerabilities (ecological, social, and economic) to climate change in the context of defining key goals and contexts (management, institutional, and environmental) might better identify suitable adaptive actions to be taken at present or in the short term, and better develop actions for the longer term. Coordination of assessments and planning efforts across the organizational levels in the USFS might better identify spatial and temporal scales for modeling and addressing uncertainty and risk linked to decision-making. Given the diversity of NFS ecosystems, a planning process that*

[16] Joyce, L.A., G.M. Blate, J.S. Littell, S.G. McNulty, C.I. Millar, S.C. Moser, R.P. Neilson, K. A. O'Halloran, and D.L. Peterson, 2008: National Forests. In: *Preliminary review of adaptation options for climate-sensitive ecosystems and resources.* A Report by the U.S. Climate Change Science Program and the Subcommittee on Global Change Research [Julius, S.H., J.M. West (eds.), J.S. Baron, B. Griffith, L.A. Joyce, P. Kareiva, B.D. Keller, M.A. Palmer, C.H. Peterson, and J.M. Scott (Authors)]. U.S. Environmental Protection Agency, Washington, DC, USA, pp. 3-1 to 3-127.

allows planners and managers to develop a toolbox of multiple adaptation options would be most suitable.

Because climate change and climate adaptation needs have many elements that will be difficult to predict, the most important goal of management planning should be to maintain and restore the resilience of forest ecosystems.

Healthy natural ecosystems have a great degree of adaptation potential and have adapted to climate changes in the past. Although the rapidity of current climate change is predicted to be much more rapid than climate changes of the past, it is imperative to take advantage of the natural adaptability of ecosystems and the geographic factors that have contributed to climate adaptation and species survival in the past. This dynamic is particularly important in regions such as the Southern Appalachians where high species and ecosystem richness is largely due to successful adaptation over geologic time to a variety of climate changes. The complex mountain topography of the region and the northeast – southwest orientation of the mountains has allowed species to adapt to numerous climate changes during geologic time through short-range as well as long-range movements. The topography has provided a hospitable stage for a wide diversity of species to find suitable habitat within a complex topography in the face of climate changes. This factor, as well as the fact that the southern Appalachian landscape has been continuously vegetated for millions of years (having escaped direct glaciations and being submerged under seas since the Cretaceous–Tertiary extinction 65 million years ago), have resulted in high species diversity and numerous distinct ecosystems within the Southern Appalachians and the southeast, which exemplify incredible resilience and natural adaptability.

In addition to the rapidity of climate change (in and of itself a human induced stressor) the human stressors that have been introduced to these natural systems are the chief impediments to resilience and are major barriers to adaptation. Removing these human induced stressors and thus recovering the natural resilience of our ecosystems should be a major focus of forest planning. This involves at least two components. First, management activities should be put through a screen to determine whether the activities will increase or decrease the stressors on natural ecosystems. This screen or consideration is currently not conducted at the plan or project level, but it should be the major determinant for whether management activities will increase the resilience of our ecosystems. The resiliency of many public forests and watersheds continue to be impaired by unwise logging, ongoing road building, ORV use, and other activities that fail to improve the ecological integrity of public lands and that increase, rather than decrease, the stressors on natural ecosystems.

Additionally, our national forests have the burden of accumulated stresses imposed on them that should be addressed in Forest planning. The Report by the U.S.Climate Change Science Program and the Subcommittee on Global Change Research[17] points out:

The legacy of past land-use can leave persistent effects on ecosystem composition, structure, and function (Dupouey et al., 2002; Foster et al., 2003). Depending on their scale and intensity, extractive activities such as timber harvesting, mining,

[17] Joyce, L.A., ibid

and livestock grazing stress NF ecosystems, affecting their resilience and the services they provide. Current USFS management strategies emphasize mitigation of environmental impacts from these activities (see section 3.3.3). However, the legacy of extractive activities in the past (Rueth, Baron, and Joyce, 2002; Foster et al., 2003) is a continuing source of stress in NFs. For example, past logging practices, in combination with fire suppression, fragmentation, and other factors, have homogenized forest species composition (including a shift from late- to early-successional species); created a unimodal age and size structure; and markedly reduced the number of large trees, snags, and coarse woody debris (Rueth, Baron, and Joyce, 2002; Foster et al., 2003).

These legacy stresses are particularly relevant on the George Washington National Forest and throughout the East where centuries of accumulated stresses exist across the landscape. In these cases it is particularly important to address accumulated stresses through restoration efforts. There is such an accumulation of these human induced stressors to natural ecosystems that restoration should be the primary focus of forest planning and management activities for the foreseeable future. Increasing the resilience of our ecosystems to address climate change through planning should have two focuses 1) identifying the portions of the landscape that have a high degree of remaining integrity and resilience and assuring through management decisions that these areas remain intact and resilient. 2) identifying the portions of the landscape (and the elements of our ecosystems) that are affected by human induced stressors and identifying decisions or management actions that can restore their natural function. These management decisions may involve active or passive restoration but should be guided by science and informed by the discipline of ecological restoration.

Adequately addressing climate change will require the Forest Plan to address resilience at multiple spatial scales. An “all-lands” approach should involve adjacent national forests, national parks and other public land agencies, and Forest Service research stations, as well as USGS Climate Change Centers. This examination of climate adaptation at multiple scales should help inform standards and guidelines in the Forest Plan that incorporate broader adaptation and resiliency needs. For example, this examination could help identify important priorities for refuges and corridors for climate adaptation that would then be incorporated into the Forest Plan. Regional and landscape refuges and corridors that address resiliency across multiple ecological gradients (e.g. taking into account elevational, latitudinal and geological gradients) can be identified in an “all-lands” approach. Standards and guides would represent not only forest level planning but eco-regional planning. It is essential that the planning process be integrated from this eco-regional level down to the project planning level so that projects become an adaptive tool for building resilience.

B. Monitoring and evaluation programs in the Plan should incorporate climate change adaptation considerations.

Data, research, and monitoring also should be assessed and integrated at multiple levels. Monitoring, research, and data will likely not show emerging patterns in climate change and climate change adaptation unless aggregated, analyzed, and assessed at higher levels. Too often monitoring has been regarded as something that is done in conjunction with projects if sufficient

funds and staffing are available. Theories and assumptions that projects are based on are seldom really tested because the monitoring data collected is inadequate to verify or refute these assumptions or the data is not sufficiently assessed. This needs to be turned on its head. Adaptive management to create resilient ecosystems and address climate change depends on gathering and assessing reliable monitoring data to gather accurate information on conditions and to verify or adjust assumptions. Under the principle of "doing no harm", projects should be unable to be implemented until funds needed for monitoring and assessments of monitoring results are available. Adaptive management should become an integrated loop between the regional/landscape level and the local project level. This is only possible if resources are put into monitoring and assessment at multiple levels.

C. Address Uncertainties in Climate Change through Adaptive Management.

Uncertainty is an important factor in many forest health issues including climate change. A viable option in dealing with uncertainty is to make plans adaptive. The Plan will need to anticipate climate change-related uncertainty and be adaptive to new science and knowledge about changing conditions on the ground. However, this adaptive management and flexibility must be informed by a robust monitoring and assessment program that is transparent and open to the public. The flexibility of adaptive management should also be constrained by meaningful standards and guidelines and by public notice and comment on proposed adaptive changes.

The Plan can acknowledge uncertainty but predict ranges of outcomes or scenarios for regional conditions and trends based on the best science. These ranges of outcomes would give sideboards for management flexibility and adaptive management that inform the public, as well as the agency, of what the limits of adaptive management actions under the Plan are likely to be. The shift between options suggested by different scenarios should be a transparent process open to the public and informed by the best science available, both within and outside the agency, and by public notice and comment.

This type of a scenario-based Plan, as well as the uncertainties of adaptation to climate change, make it imperative that a robust monitoring and evaluation program be in place and be funded and staffed adequately. Monitoring evaluations targeted at identifying ecosystem response to climate change, to natural disturbance, and to management actions should become a regular part of adaptive management. Under a "do no harm" focus for management actions, monitoring and evaluation funds should be tied to project approval so that projects cannot be implemented and potentially add more stress to our natural systems unless funds are also allocated for monitoring and evaluation of project outcomes.

D. The Wilderness Society has suggested Specific Strategies and Recommendations that Forest Plans Should take to Address Climate Change[18]

[18] From The Wilderness Society Scoping Comments on the Notice of Intent to Prepare an Environmental Impact Statement for National Forest Management Act National Forest System Land Management Planning Regulations (Feb. 16, 2010). We consider these very relevant to the GW Plan Revision as well.

Strategies and Recommendations:

1. Explicitly account for future climate change through an open process that involves the public in the identification and assessment of key vulnerabilities and the development of strategies to sustain ecosystem services linked to their survival.

2. Select key vulnerabilities by reviewing species and other ecosystem elements and processes that have been identified as of conservation concern and considering their vulnerability, their importance to people and ecosystem function, and the availability of information necessary to sound decision making.

3. Conduct a risk assessment that employs the best available science to characterize vulnerability, uses state-of-the-art modeling to assess likely exposure to climate change and its effects, and documents sources of uncertainty.

4. Include specific strategies to reduce vulnerability by:
    a. Increasing the size and number of protected reserves.
    b. Reducing the impact of livestock grazing on vulnerable ecosystems.
    c. Reducing the impact of recreational visitation by managing off-road vehicle use.
    d. Reducing the impact of oil and gas leasing and other resource development.
    e. Restoring degraded ecosystems by:
        i. Reintroducing fire where appropriate.
        ii. Closing and rehabilitating roads.
        iii. Repairing and reconnecting aquatic and riparian habitat.
        iv. Facilitating the development of old-growth forest.

5. Include specific strategies to reduce exposure:
    a. Mitigate carbon emissions by:
        i. Curtailing activities that emit carbon, including:
            1. Forest conversion from old to young forest.
            2. Energy development (particularly oil and gas leasing).
            3. Recreational activities.
            4. Management activities.
        ii. Facilitating carbon storage through:
            1. Forest protection.
            2. Restoration of low-severity fire and fire-tolerant forest structure.
            3. Restoration of resilient forest cover on degraded landscapes.
    b. Reduce exposure to the effects of climate change by:
        i. Treating fuels around communities to protect them from fire.
        ii. Restoring low-severity fire and fire-tolerant forest structure.
        iii. Restoring watershed function.
        iv. Minimizing disturbances that facilitate the spread of invasive species.
        v. Protecting climate refugia.

6. Include specific strategies for reducing uncertainty by:

a. Including a detailed plan for adaptive management that can be implemented under realistic budget projections. Such a plan should include:
    i. A monitoring strategy.
    ii. A mechanism and schedule for review of monitoring data.
    iii. A mechanism for public involvement in adaptive management.
b. Identifying critical research questions necessary for improving adaptation strategies and a plan for accomplishing necessary research.
c. Including detailed recommendations for management area designations and changes in administration to improve the representation and connectivity of protected area categories to facilitate an experimental approach to adaptation at the landscape scale.

Specific analyses that must be part of an adequate EIS include:

- Analysis of likely climate change under reasonable foreseeable emission scenarios for the planning unit.
- Selection of "key vulnerabilities," based on vulnerability to climate change, importance, and availability of information.
- Analysis of likely response to climate change for each key vulnerability, including range shifts, behavioral responses, and potential for evolutionary response.
- Analysis of watershed condition and likely impacts of climate change on hydrology and aquatic ecosystems, and opportunities for restoration and road rehabilitation to enhance watershed function.
- Analysis of community vulnerability to wildfire, the location of wildlands fuels that should be treated to protect communities from fire, areas where wildfire can be managed for ecological benefit, and opportunities to manage fuels to reduce negative ecological consequences of unwanted fires. - *Note this generally is not as significant an issue for the GW as Western National Forests.*
- Analysis of size, distribution, and connectivity of the existing protected area system and identification of additions that would enhance connectivity across environmental gradients.
- Analysis of existing and potential biological carbon storage and effects of management for carbon on other resource values.
- Analysis of greenhouse gas emissions from Forest operations and potential for reductions.

E. The Existing Climate Trends and Strategies Document is Particularly Weak in Considering Landscape Connectivity and Corridors in the Context of Climate Change Adaptation.

The Climate Change Trends and Strategies Document mentions reserves and corridors for climate adaptation but does not develop this idea or take the discussion in a direction that could be a meaningful approach in the Forest Plan. The idea of reserves and corridors is increasingly recognized in conservation biology as an essential element of planning for conservation resiliency including climate adaptation. See for example numerous examples in:

"Connectivity Conservation Management: A Global Guide"[19] including Southern Appalachian example.

The Southern Appalachian Forest Coalition's book: *Return the Great Forest*[20] identifies a number of landscape conservation areas in the Southern Appalachian region, several of them including GW National Forest Lands, that should be high priority reserves. The book further proposes linking these landscape conservation areas through corridors. We have also been following The Nature Conservancy (TNC) effort in conducting analysis of matrix forest blocks (or core reserves) and potential corridors in their Central Appalachian Region that includes the GW National Forest. As suggested earlier in these comments on climate change adaptation, strategies should address specific reserves and corridors that species can use for climate adaptation. There is no shortage of proposals along this line. And there is no real disagreement on where these reserves and corridors should be. These reserves are easily identifiable within the most remote lands remaining in the Southern Appalachians: the complexes of wilderness areas, roadless areas, Mountain Treasure Areas, and lightly roaded areas remaining in the region. The GW should identify these landscape conservation areas, or core reserves, or matrix forest blocks using SAFC, TNC, or some of the other widely accepted conservation biology methodology and tools available. These core reserve areas should be connected through corridors using TNC or other initiative's efforts - or using corridor design tools such as GIS Least Cost Path Analysis or off the shelf corridor design software such as: Corridor Designer Circuitscape, FunConn, etc. Conservation planning along these lines is essential to adequately address the issues around a resilient landscape and to address the needs of climate change adaptation.

VIII. Fire: Wildland Fire and Prescribed Burning on the GWNF

The Need for Change document discloses Forest interest in an increase in the use of wildland fire and controlled (prescribed) burning. We are supportive of the use of both wildland and controlled burning in appropriate environments. We completely agree that not all fire is bad, as noted in the Draft Evaluation of the Need for Change p. 95. We do however have a number of questions in an effort to understand the current proposal and the context for the dramatic increase in the use of prescribed and wildland fire on the Forest. First of all, we would like a copy of the GWNF's approved Fire Management Plan (FMP). Secondly, we'd like copies of any Community Wildfire Protection Plans (CWPP) that have been completed with local communities.

The Draft Evaluation of the Need for Change document describes the various ecosystem types on the Forest. The Yellow Pine Forest Community is described as a fire-dependent habitat type. We note that acreage of this community type has been dropping. Of the acres remaining, how dispersed is this habitat type across the forest? What are the mean patch sizes for this habitat? How large would the typical prescribed burn be in order to maintain this habitat and of what fire intensity? How much and where does this habitat type occur within the wildland-urban

[19] Worboys, Graeme L, W.Frances, and M Lockwood. Ed. 2010. *Connectivity Management: A Global Guide*. Earthscan Publishing. London, England

[20] Irwin, Hugh, S Andrew, and T. Bouts, 2002. *Return the Great Forest: A Conservation Vision for the Southern Appalachian Region*, SAFC, Asheville, NC. 112 pp. http://www.safc.org/resources/documents/safc_cv.pdf

interface (WUI)? What effect is or might climate change have on the continued existence of the Yellow Pine Forest Community on the GWNF?

The GWNF is proposing a large increase in the use of prescribed fire. The agency proposes to use prescribed fire to create early successional habitat (ESH) on the forest. First of all, estimations of the need for ESH must take into account conditions and ESH habitat amounts in and around the forest on non-federal land. Large blocks of undisturbed remote habitat connected via corridors are the habitat type most lacking in the eastern and southern US and the federal government is the only landowner likely to be able to provide this kind of habitat.

Secondly, the Draft Evaluation of the Need for Change document cites the period from the early 1700's until the 1930's in describing the historic role and extent of fire in Appalachian ecosystems. Yet this timeframe was a period of unprecedented increases in human habitation of the area and (adverse) alteration of the ecosystem. Fire evidence from this time period could be heavily influenced by direct ignition from areas settlers and residents and reflect natural variability to a very small if negligible degree. What other evidence exists for the historic range and variability of fire in this area?

The proposed use of prescribed and wildland fire to create ESH (see Summary of the Need for Change, pp. 3-4) would seem to imply the use of high intensity fire in order to burn hot enough with sufficient flame lengths to girdle standing trees and not just remove ladder fuels and underbrush. Is the Forest proposing to use high intensity stand replacing fire to create ESH? If so, where would this take place? In general, high intensity, stand-replacing prescribed fire would not be ecologically appropriate for the GWNF, as even the Draft Evaluation of the Need for Change seems to acknowledge, pp. 94-95.

Additionally, the amount of prescribed burning proposed under the two alternatives would lead us to conclude that a significant amount of that increase would be proposed in remote and backcountry areas under the "Need for Change" alternative. Is this accurate?

The Forest definition of ESH is also of interest. Assuming the use of prescribed fire to create ESH, does the forest's definition of ESH include standing trees girdled by fire? Or would salvage logging follow prescribed burning to create ESH? Finally, the forest will have to explain the apparent disconnect of a large increase in the amount of controlled burning and management of unplanned ignitions for resource benefit at a time when air quality standards and requirements are increasing.

As noted above, we are very supportive of the use of wildland and prescribed burning where appropriate. We want to ensure that its use is for restoration, resiliency and maintenance of fire-dependent and / or fire-adapted ecosystems and is not being driven by a misapplication of Western fire ecology to the Southern Appalachian mountains and/or by efforts to secure additional Forest funding from the large pool of fire-related funds. We hope the answers to our questions will reassure us that the latter two are not the case.

IX. Roadless Area Inventory, Protection, and Evaluation for Wilderness Recommendation.

A. Background

Under the NFMA, forest plans must "provide for outdoor recreation (including wilderness), range, timber, watershed, wildlife, and fish. . .." 16 U.S.C. § 1604(g)(3)(A). The 1982 NFMA regulations direct that "roadless areas within the National Forest System shall be evaluated and considered for recommendation as potential wilderness areas during the forest planning process. . .." 36 C.F.R. § 219.17 (1999 ed.). Note that the 1982 regulation is different from the 2008 regulation no longer in force, under which the GW began the inventory and evaluations, see 36 C.F.R § 219.7(a)(6)(ii) (2008). The 1982 regulation lists certain roadless areas that must be evaluated and sets forth factors to consider in that evaluation. Id. This should be a two-step process, first, a more objective inventory of roadless areas, second, a more subjective evaluation of those areas considering whether to recommend them to Congress for wilderness designation. It is important to distinguish between these two steps. See Robert C. Joslin, Regional Forester, to Forest Supervisors, Re: Inventories for Forest Plan Revisions, at 3 (May 19, 1995) (hereinafter "Regional Forester 1995 Guidance" or "Guidance").[21]

The Forest Service Handbook (FSH) establishes the process and criteria for the roadless area inventory and evaluations. The handbook used for years, FSH 1909.12, Ch.7 (1992), was revised in 2007 as part of the Bush administration's attempt to overhaul forest planning (see new FSH 1909.12, Ch.70 (2007)). Among other changes, the 2007 handbook replaced the well-understood "roadless area" term used in both the 1982 NFMA regulations and in the prior handbook with the new, confusing term "potential wilderness areas" and made the roadless area inventory criteria more stringent (discussed further below). For the reasons stated in prior comments, we continue to object to the use of these 2007 directives rather than the prior handbook. Now that the GW is using the 1982 rule, the Forest needs to ensure that its inventory and evaluations comply with the 1982 regulation.

Consistent with the 1982 regulations' term "roadless areas," we will continue to use the term "roadless areas" to refer to all the areas in the GW's inventory of "potential wilderness areas" (PWAs). We will use the term "Inventoried Roadless Areas" (IRAs) to refer to those areas identified in the FEIS for the 2001 Roadless Area Conservation Rule, 66 Fed. Reg. 3244 (Jan. 12, 2001). We will refer to those PWAs which were newly identified in this plan revision, i.e. those PWAs not previously inventoried as IRAs, as the newly or recently identified roadless areas. Because the GW is using the 2007 handbook, however, we will refer to that handbook in making these comments.

The inventory and evaluation of roadless areas, and the recommendation of good candidates for wilderness designation, furthers important goals for the creation and expansion of the National Wilderness Preservation System, as set forth in The Wilderness Act of 1964, the Eastern Wilderness Areas Act of 1975, and the Endangered American Wilderness Act of 1978.

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[21] The GW's "Guidance on How to Conduct the 'Potential Wilderness Area Inventory' for the Revision to the Revised George Washington Forest Plan," Final Process Paper of Aug. 21, 2008, stated that the GW "will follow guidance contained in" sources including this letter.

B. All Roadless Areas, Whether IRAs Or Newly Identified Areas, Should Be Managed Consistently With the 2001 Roadless Rule.

1. Inventoried Roadless Areas

Our previous comments outlined the important values of roadless areas and the strong support for the 2001 Rule by the public and by the Obama Administration and we will not reiterate them here (see our August 2008 comments, pp. 6-8 and our June 2009 comments, pp. 22-23). We do want to emphasize that the 2001 Rule currently is in effect nationwide, including in Virginia, except in the state of Idaho and in the Tongass National Forest.[22] We also want to note that any actions that would be inconsistent with the provisions of the 2001 Roadless Rule require review and approval by the Secretary of Agriculture, establishing an added safeguard for roadless areas.[23]

The management of roadless areas in the revised plan, therefore, should be consistent with the provisions of the 2001 Rule, which is the regulation now in force and the policy of this Administration. The GW's current proposal is not consistent. About 8,000 acres within IRAs are proposed for "active management" (Summary of Need for Change at 6), which apparently means timber harvest and road construction not permitted by the Rule. Also, the backcountry prescription assigned to most other IRAs would allow salvage harvest (id.), also generally not permitted by the Rule. The IRAs have seen little or no timber harvest since the 1998 moratorium on road-building in roadless areas. Managing IRAs in the plan consistently with the 2001 Rule would provide clarity for the remainder of the planning process and for the life of the plan. The backcountry prescription should be made consistent with the provisions of the Rule and the revised plan should place all IRAs not recommended for wilderness designation in that prescription or in others consistent with the Rule.

2. Newly Identified Roadless Areas

In the "PWA" inventory for this plan revision, the GW identified about 148,000 acres of roadless areas that are in addition to the previous IRAs. These newly identified roadless areas include seven new areas[24], new additions to existing wilderness areas[25], and expanded

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[22] In August 2009, the Ninth Circuit Court of Appeals affirmed a 2006 California district court decision which had invalidated the state petitions rule for roadless areas and reinstated the 2001 Rule nationwide. California ex rel. Lockyer v. USDA, 575 F.3d 999 (9th Cir. 2009). Prior to the Ninth Circuit's decision, the California district court had temporarily limited its injunction reinstating the 2001 Rule to the Ninth Circuit and New Mexico, pending the Ninth Circuit's ruling, in order to avoid conflict with a Wyoming district court injunction against the 2001 Rule. So, the Ninth Circuit decision effectively reinstated the 2001 Rule nationwide (except in Idaho and the Tongass National Forest). The Wyoming decision is on appeal to the 10th Circuit Court of Appeals.

[23] See Memorandum from Joel Holtrop, Deputy Chief, National Forest System, to Regional Foresters, et al., re: Activities in Inventoried Roadless Areas, available at http://fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5104601.pdf (Oct. 16, 2009).

[24] Our Jan. 2010 letter to the Forest Supervisor stated the GW identified 8 new roadless areas. We want to clarify that one of those, Rich Patch, primarily is composed of the Hoop Hole IRA located on the Jefferson NF, so the GW's "new" Rich Patch area is essentially a small addition of 982 GW acres to an existing JNF IRA. The 7 entirely new, stand-alone roadless areas are: Archer Knob (7,110 ac.), Beech Lick Knob (14,087 ac.), Duncan Knob (Catback Mtn.) (5,973 ac.), Galford Gap (6,689 ac.), Little Mare Mtn. (11,918 ac.), Paddy Knob (5,987 ac.), Potts Mtn./Toms Knob) (7,863 ac.) and Shaws Ridge (7,268 ac.).

boundaries for many of the previous IRAs. We strongly believe these newly identified roadless areas should be managed consistently with the previously inventoried roadless areas and with the 2001 Rule.

The GW is proposing to allocate most of these new areas to the suitable timber base, subject to new road construction and logging, based on two premises which we believe to be erroneous: (1) that the inventory criteria for the new areas is less restrictive than the criteria for IRAs and that the new areas did not qualify as IRAs,[26] suggesting the new areas have less value than the IRAs and it is acceptable to manage them less protectively; and (2) that the new areas currently are accessible, suitable for timber production, and managed for timber and early successional habitat (Summary of Need for Change at 7).

Regarding inventory criteria, a Forest Service staff member verbally explained that the "PWA" criteria are viewed as less restrictive because of the change in how road density is calculated. The 2007 FSH counts system roads, while the prior FSH counted "improved roads." The staff member explained that, when IRAs were inventoried under the prior FSH, the GW/Jefferson National Forest counted non-system road beds and prisms in the forest, in addition to system roads, as "improved roads." Therefore, the 2007 FSH criterion is viewed as less restrictive, because only system roads are counted.

We believe this was an incorrect interpretation and application of the "improved road" criterion. The FSH in effect at the time stated that "improved roads" were "maintained for travel by standard passenger-type vehicles. . .." FSH 1909.12, Ch.7.11(3) (1992). We firmly believe that non-system roads did not meet this definition (see our Aug. 2008 comments pp.10-11, for further discussion of definition of "improved roads"). These new areas should have been inventoried previously. This illustrates our point that a proper, comprehensive roadless area inventory never has been conducted on this national forest, and that prior inventories excluded many qualifying areas which only now have been recognized by the Forest Service.

Regarding timber suitability and current management, we have conducted GIS analysis which shows that about 76% of the PWAs are not readily accessible for commercial logging. This finding bears out our belief that a major reason these areas still remain roadless, despite not being recognized by the Forest Service until now, is because they are far from open roads, on steep slopes, and are not readily accessible.

Using GIS analysis, we analyzed the newly identified roadless areas to make a rough approximation of which portions of them might be readily accessible for commercial logging. According to GIS data, there are 148,043 acres of newly identified roadless areas on the GW (i.e. the PWAs that are not also IRAs). First, we screened out those portions of the new areas that are more than ½ mile from open roads, i.e. roads listed in the Forest Service's GIS roads layer as open, restricted or open for administrative use.[27] Second, we removed acreage within the

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[25] Saint Marys (2 new additions totaling 3,284 ac.) and Three Ridges (4 new additions totaling 369 ac.).

[26] See GWNF Forest Plan Revision, PWA Inventory & Evaluation, Draft Working Paper, at 8 (Mar. 3, 2010) (hereinafter "Invty. & Eval. Working Paper").

[27] Based on our assumption that it is generally not desirable to construct more than ½ mile of temporary road. The Summary of the Need for Change suggests that additional permanent road construction is not desired or

riparian corridor (within 100' of perennial streams and within 50' of intermittent steams, per USGS hydrological data).[28] Third, we removed areas which were unsuitable for timber production in the 1993 plan.[29] Fourth, we removed areas on slopes greater than 35%.[30] Only about 35,894 acres remained.

This analysis shows that only about 24% or 35,894 acres of the new areas might be readily accessible for logging. About 76% or 112,149 acres of the new areas are not readily accessible.

Of course, this is only a rough approximation. It may be physically possible to harvest timber on some of the screened out acreage, although we doubt it would be economic in most cases, and the Forest Service could point out chunks of remaining, more accessible land in some of the new areas. And other factors could be considered, such as site productivity. However, in the big picture, this analysis illustrates the general lack of good road access, existing unsuitability, and topographical barriers in the new roadless areas. It shows that placing all of the newly identified roadless areas into unsuitable prescriptions would not result in a significant loss to the most accessible, suitable timberland – perhaps a loss of only about 35,894 acres or 10% of the 350,000-acre suitable base under 1993 plan.

Our analysis particularly calls into question the claim that "much" of the new areas "is currently suitable" and "has been actively managed within the past 15 years," Summary of Need for Change at 7, which implied that current management would have to change significantly if these areas were designated unsuitable. We think that is not the case.

Even if it were the case, fundamentally these newly identified areas are roadless areas which have the important values of roadless areas, should not be treated as second-class areas because they were only recently recognized, and should be protected consistently with the previously inventoried areas and with the standards of the 2001 Rule. It is important to protect these areas in their entirety in order to fully protect their roadless characteristics, to prevent those characteristics from being diminished, and to prevent alterations such as road-building and logging in these areas from being used to gradually chip away at and shrink the size of the roadless areas, as has happened with other roadless areas on the GW/Jefferson NF.

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contemplated for these areas (claimed new PWAs available for management "without additional permanent road construction."). We excluded areas near roads closed to all use, because use of currently unused roads by logging trucks likely would require costly road reconstruction.

[28] This is the proposed core width of the riparian corridor, which will be unsuitable for timber production. Draft Management Prescription Areas at 83 (Feb. 2010).

[29] Areas designated as unsuitable in 1993 have not been managed for timber production in the last 17 years, have seen no recent "investments" in timber production, and are not part of the current suitable base, so designating them as unsuitable again in this plan revision would not reduce or remove any currently suitable land.

[30] Based on Virginia BMPs for forestry, which state that "Overland or dispersed skidding on steep slopes should not exceed 35 percent," and "Where possible, keep bladed or dozed skid trail grades to less than 25 percent. . .." VA Dept. of Forestry, Virginia's Forestry Best Management Practices for Water Quality, Field Guide, available at www.dof.virginia.gov/wq/index-BMP-Field.shtml, at 39 (5th Ed., 2010); see also GWNF, Draft Forestwide Standards at 15 (Feb. 2010) ("Use advanced harvesting methods on sustained slopes 35% or greater"). Logging these steep areas would require costly cable or helicopter logging, which, as far as we know, has not been shown to be economic on the GW (i.e. above cost).

C. 1982 NFMA Regulations Require Undeveloped, Previously Inventoried Roadless Areas To Be Evaluated, So Such Areas Excluded From PWA Inventory Must Be Returned To Inventory And Evaluated.

Two IRAs, Southern Massanutten and The Friar, were excluded from the PWA inventory:

- Southern Massanutten IRA – 11,721 ac., Lee RD. Excluded because of private mineral rights. Invty. & Eval. Working Paper at 4.
- The Friar IRA – 3,976 ac., Pedlar RD. Excluded because of size. The evaluation of this area for the 1993 plan revision documented that "The Friars area is extremely steep and rugged. The interior is relatively inaccessible and remote for its small size." 1993 FEIS for Revised LRMP, App. C-51.

Now that the plan is being revised under the 1982 regulations, these two IRAs must be returned to the PWA inventory and evaluated. The regulations state that "the following areas shall be subject to evaluation (1) Roadless areas including those previously inventoried in the second roadless area review and evaluation (RARE II), in a unit plan, or in a forest plan, which remain essentially roadless and undeveloped. . .." 36 C.F.R. § 219.17(a)(1)(i). Both of these areas were "previously inventoried" in the 1993 GW plan. See 1993 FEIS for Revised LRMP, App. C. Southern Massanutten also was inventoried in RARE II. As far as we know, no disqualifying development has occurred in these areas since the 1993 inventory. Therefore, these two areas "shall be subject to evaluation." § 219.17(a)(1)(i).

Additionally, from a practical standpoint, these two areas are in the roadless inventory for the 2001 Roadless Rule and are protected by the Rule, so they should remain in the GW's current inventory. We anticipate the GW may suggest that the Forest Service can track these areas even if not in the current inventory. Unfortunately, the Forest Service has made this claim before regarding uninventoried roadless areas, then has forgotten them because there is no consistent system for tracking them and ensuring they are remembered and considered during forest and project planning.

Indeed, this plan revision is not yet final, but Southern Massanutten already was forgotten or confused. The Inventory and Evaluation Working Paper explained what happened to the prior IRAs since the 1993 plan, noting the wilderness and scenic area designations for three areas and stating that "One other IRA, The Friars . . . does not meet the requirements . . . Therefore it was not given further evaluation as potential Wilderness." Invty. & Eval. Working Paper at 8. No mention was made of Southern Massanutten in that discussion, although the Working Paper previously stated it was excluded from the inventory (Working Paper at 4).

To add to the confusion, it appears that on some level the GW mixed up Southern Massanutten and Duncan Knob, erroneously listing them as the same area in Table 4 of the Working Paper, although properly discussing them separately in other parts of that same paper. Table 4 lists a "Duncan Knob (Massanutten South IRA)" with 5,973 acres in the 2008 PWA inventory and 11,966 acres in the 1993 IRA inventory. This is an obvious mix-up. Duncan Knob is a newly identified, 5,973 acre area; it originally was proposed in VA Mountain

Treasures as Catback Mtn., 6,386 ac. (VMT at 93). Duncan Knob is located north of Route 211 (see VMT at 93; see GWNF Map of Potential Wilderness Inventory, which shows and labels the correct Duncan Knob area).

Massanutten South IRA is an entirely separate area in a different location. Southern Massanutten is an IRA of about 11,919 acres (see 1993 FEIS for Revised GW Plan, App. C), which was inventoried in the 1993 plan and in RARE II. It lies at the southern tip of Massanutten Mountain, far south of Route 211. Id. This mix-up must be corrected and Massanutten South and The Friar must be returned to the current inventory.

The GW also must return to the inventory and evaluate any other essentially roadless and undeveloped RARE II areas and areas inventoried in the 1993 forest plan which were dropped from the initial "PWA" inventory. Such areas include the Great North Mountain and Johnnies Knob portions of the Big Schloss RARE II area. In the 1993 forest plan, the Great North Mountain portion was deleted, without explanation, from the Big Schloss roadless area between the draft and final revised plan, FEIS for 1993 Plan at C-15. Both of these areas remain essentially roadless and undeveloped, as detailed in our August 2008 comments, p. 14, and our June 2009 comments, pp. 12-13, 17-18.

D. Qualifying Areas Have Been Excluded From the Inventory of Roadless Areas.

Our initial August 2008 comments on the revision proposed a number of areas for the roadless inventory. Then, in June 2009, we commented on the draft "PWA" inventory and on the GW's Review of the Virginia Mountain Treasure (VMT) areas for inclusion in the inventory. Now the GW has released the PWA Inventory and Evaluation Draft Working Paper (3/3/2010), which offers new explanations for excluding certain areas from the inventory. Our comments below focus on responding to that paper.

The NFMA regulations list certain roadless areas which must be evaluated, and the FSH sets forth criteria for the roadless inventory. Under the FSH, roadless areas in the East qualify for placement on the inventory if they meet the following criteria:

1. Areas contain 5,000 acres or more, or
2. Areas contain less than 5,000 acres, but can meet one or more of the following criteria:
    a. Areas can be preserved due to physical terrain and natural conditions.
    b. Areas are self-contained ecosystems, such as an island, that can be effectively managed as a separate unit of the National Wilderness Preservation System.
    c. Areas are contiguous to existing wilderness, primitive areas, Administration-endorsed wilderness, or potential wilderness in other Federal ownership, regardless of their size.
3. Areas do not contain forest roads (36 CFR 212.1) or other permanently authorized roads, except as permitted in areas east of the 100th meridian (sec. 71.12), where the threshold is that "Each area contains no more than a half mile of

forest roads (36 CFR 212.1) under Forest Service jurisdiction for each 1,000 acres, i.e. no more than ½ mile of system road per 1,000 acres.

See FSH 1909.12, Ch.71.1; Ch. 71.12.

Section 71.12 describes criteria for roadless areas in the East, "recognize[ing] that much, if not all of the land, shows some signs of human activity and modification even though they have shown high recuperative capabilities." Ch.71.12. All of the Eastern criteria regarding naturalness, ownership patterns, and perpetuating wilderness values recognizes that a certain amount of disturbance may be present. See Ch.71.12(1)-(8).

We want to emphasize that we recognize and appreciate the GW's inclusion of a number of new and expanded areas in the PWA (i.e. roadless) inventory. This inventory, while not yet complete, generally was very good, although it has a few systemic flaws which caused the exclusion of areas which do meet the roadless criteria.

These areas were excluded from the inventory mainly on the basis of (1) their claimed lack of opportunities for solitude, due to (a) an asserted lack of a 2,500-acre "semi-primitive core"; (b) a shape and/or size viewed as undesirable; and (c) influences of "sights and sounds" from outside the areas; (2) manageability concerns; (3) the presence of private mineral rights.

For many excluded areas, these stated reasons are factually incorrect, inadequately supported, and/or are based on improper or inconsistent criteria. In summary, as a result of a Regional and forest-level misinterpretation of the definition of wilderness in The Wilderness Act, the GW's inventory erroneously focused on solitude, without considering recreation and other wilderness values, and then strayed even further from the Act's intentions by attempting to quantify solitude using the ROS semi-primitive (SP) lands. The GW also compounded the problem by absolutely requiring 2,500 acre SP cores, rather than using such cores only as a guide and also examining the "on the ground" characteristics of individual areas to assess their opportunities for solitude, as instructed by the Regional Forester's 1995 guidance.

The guidance and the GW's inventory (and evaluations) also excluded areas based on "sights and sounds" from outside areas, which legislative history demonstrates Congress does not intend the Forest Service to consider in interpreting and applying the Act's definition of wilderness. The GW also excluded a number of areas that it viewed as too small, too narrow, or too irregularly shaped to be good wilderness candidates, despite the fact that the agency has inventoried and Congress has designated many similar areas, including in Virginia.

In excluding areas that met the road density and other criteria from the roadless area inventory based on these subjective factors, the GW applied the more subjective wilderness area evaluation criteria to the roadless area inventory, conflating the inventory and evaluation steps. The first, inventory stage should be a more objective inventory that focuses on the road density criteria and does not exclude areas based on subjective evaluations of the ultimate desirability of designating them as wilderness areas.

1. Areas Not Yet Reconsidered.

Our June 2009 comments specifically requested that the GW reconsider 22 areas. The Working Paper addresses most, but not all, of these areas. The areas unaddressed are: Johnnies Knob, Cove Mtn., Falls Ridge, and the full Benson Run area which should be included in the Jerkemtight roadless area (part of Benson Run was added, part was excluded). These areas should be added to the inventory for the reasons stated in our August 2008 and June 2009 comments.

2. Mineral Rights

Regarding private mineral rights, the Working Paper lists 14 areas excluded from the inventory because they have less than 70% federal ownership of mineral rights. For two of those, however, Great North Mtn. and Church Mtn., this appears to be factually incorrect, based on the GW's own "Review of Wilderness Society's '*Virginia Mountain Treasures: The Unprotected Wildlands of the George Washington National Forest*,' Final Working Paper (Sept. 18, 2008) (hereinafter "VMT Review"). According to the VMT Review, p.4, federal ownership (both subsurface and surface) exceeds 70% in these two areas.[31]

The VMT Review initially excluded these areas for other reasons, to which we responded in our June 2009 comments, pp. 17-19, and documented that the areas meet the road density and other requirements. Then the Forest Service asserted this private mineral rights issue, which appears factually erroneous. Now these two areas should be added to the inventory.

Regarding the other areas subject to private mineral rights, we continue to believe that the presence of private mineral rights, particularly when those rights are unexercised, should not exclude areas from the roadless inventory and is more appropriately considered at the evaluation stage. See our June 2009 comments pp. 14-15 for further discussion.

3. Solitude

The new discussion in the Working Paper indicates that many areas which apparently meet the road density and naturalness criteria, and have the desired 70% federal ownership, were rejected because the GW felt they possessed insufficient opportunities for solitude. Several of these areas initially were excluded in the VMT Review based on road density. In our June 2009 comments, we showed that the areas meet, or could be adjusted to meet, the road density criteria. Now the Working Paper states they will be excluded based on an asserted lack of opportunities for solitude.

The Wilderness Act defines wilderness, in part, as areas which have "outstanding opportunities for solitude <u>or</u> a primitive and unconfined type of recreation." 16 U.S.C. § 1131(c)(2) (emphasis added). Yet, even at the roadless inventory stage, the GW focused on

[31] According to VMT Review, Great North Mtn. has 14.43% and Church Mtn. has 23.93% in private subsurface ownership. So, both areas have 70% or more federal ownership of mineral rights. The combined federal surface and subsurface ownership in each area also is 70% or greater.

whether areas possess what the Forest Service deems adequate opportunities for solitude, without fully considering recreation opportunities and other wilderness values, an arbitrary and capricious interpretation and application of The Wilderness Act. See, e.g., The Wilderness Act, 16 U.S.C. § 1131(a) (policy) and (c) (definition); § 1133(b) (direction to land management agencies); see generally Doug Scott, Campaign for American Wilderness, Solitude, 'Sights & Sounds' and The Wilderness Act: What Can Qualify for Designation as Wilderness? at 2-5 (April 2003) (attached). This focus on solitude continues to be a major, systemic flaw in the roadless inventories, as well as in the evaluations of the roadless areas.

Opportunity for Solitude Is Not An FSH Inventory Criterion

There is no reference whatsoever to the word "solitude" in the FSH inventory criteria. "Solitude" is not and should not be a roadless inventory criterion. The FSH does not mention solitude until the more subjective evaluation phase, see FSH 1909.12, Ch.72.1(3). At the step one, roadless inventory stage, the focus should be on whether areas meet the road density and naturalness criteria. More subjective weighing of wilderness values, which do include but are not limited to solitude, should not be undertaken until the step two, evaluation stage.

Opportunity for Solitude Is Solely Emphasized, Without Consideration of Recreation and Other Values, As A Result of a Misquotation and Misinterpretation of The Wilderness Act.

The imposition of a "solitude" criterion at the roadless inventory stage seems to have come from the Regional Forester's 1995 guidance interpreting the FSH provision that an area's location is "conducive to the perpetuation of wilderness values." FSH 1909.12, Ch.7.11b(4), now Ch.71.12(4). The Regional Forester stated that The Wilderness Act "defines a number of wilderness values. Among those values, Section 2(c)(2) of the Act states that wildernesses must have outstanding opportunities for solitude **and** a primitive and unconfined type of recreation." Regional Forester 1995 Guidance at 6 (emphasis added).

The Regional Forester critically misquoted the Act, which defines wilderness areas, in part, as areas which have "outstanding opportunities for solitude **or** a primitive and unconfined type of recreation," 16 U.S.C. § 1131(c)(2) (emphasis added). When the Sierra Club pointed out this misquotation in 1995, the Regional Forester responded that it was a "typing error" and claimed that "nowhere in the guidance do we attempt to give the impression that both the 'solitude' and 'primitive and unconfined type of recreation' components of this criterion need to be met." Letter from Robert C. Joslin, Regional Forester, to Rene Voss, Sierra Club-Georgia Chapter, at 2 (Jan. 12, 1996) (attached). Obviously, this response should have clarified that areas do not need to provide both solitude and primitive and unconfined recreation.

In practice, however, the Southern Region and the National Forests within the region, including the GW, adopted the Guidance's incorrect definition and interpretation of wilderness. Based on the GW's VMT Review and the Inventory & Evaluation Working Paper, the GW is requiring all areas to provide solitude and is not separately considering their recreation opportunities. This pervasive misinterpretation is evident in the GW's tables for the roadless area evaluations, which rate "Opportunities for solitude **and** primitive, unconfined recreation" (emphasis added).

There are many forms and aspects of primitive and unconfined recreation, for example, backcountry activities, such as hiking, backpacking, camping, riding, fishing, hunting, paddling, and generally enjoying nature (see FSH 1909.12, Ch.72.1(3)), as well as scenic qualities, ruggedness, naturalness, biological and geological features, and opportunities for physical and mental challenge. Moreover, as discussed further below regarding the evaluations, the Act defines wilderness much more broadly, and sets forth many more wilderness values, than just solitude and recreation. Recreation and other values have not yet been fully considered in the inventory and evaluations; even when the word "recreation" is used in those documents, it is used in the context of solitude.

GW Strictly Is Requiring a 2,500-acre ROS Semi-Primitive Core, Contrary To The Regional Forester's Guidance.

The Regional Forester and the GW attempted to quantify solitude using the Recreation Opportunity Spectrum (ROS). The Guidance stated that "semi-primitive lands were identified as the lands that best satisfied the solitude qualities of roadless areas. Therefore, it is desirable for the 'core" of a roadless area to meet the conditions of a semi-primitive non-motorized or semi-primitive motorized ROS classification." Guidance at 6. Again, note this focus on ROS to measure "the solitude qualities," not recreation qualities.

The Regional Forester explained:

> ". . . this 2,500-acre minimum size can be used as a screen to evaluate areas identified and mapped by either the forest or the public.
> . . .
>
> However, it is important to recognize that this 2,500-acre semi-primitive "core" size is not an absolute minimum. It is only a screen and as such should be used only as a guide.
>
> Some areas above or below this size, may or may not provide solitude. For these areas, one needs to look closely at topography, proximity to type and use of roads, population centers and other sights and sounds[32] of human activity to determine if solitude and primitive and unconfined recreation could be experienced. This is going to be a professional judgement [sic] based on your knowledge of the area.
>
> Two specific areas related to this issue of "solitude" will require close consideration, 1) unaltered RARE II areas with ROS core areas less than 2,500 acres, and 2) areas larger than 5,000 acres with ROS core areas less than 2,500 acres. As referenced above, these areas need to be reviewed based on using the 2,500 acre ROS core as a coarse screen rather than an acreage requirement."

Guidance at 6 (emphasis added).

[32] We do disagree that it is proper, particularly at the inventory stage, to consider "sights and sounds" from outside the areas, as discussed further below.

In practice, however, the GW absolutely is requiring an SP core. Of the stand-alone areas (not wilderness additions) that the GW's working papers considered for the inventory, not a single area, no matter how large or rugged, without a 2,500 acre SP core was added to the inventory. The hard requirement of an SP core is contrary to the Regional Forester's roadless inventory guidance.

Topography and Other Site-Specific Attributes Which Could Provide Opportunities for Solitude Were Not Considered.

The VMT Review and the Inventory and Evaluation Working Paper do not show that the GW "look[ed] closely at topography, proximity to type and use of roads" and other factors in order "to determine if solitude and primitive and unconfined recreation could be experienced," as instructed by the Regional Forester's Guidance. Guidance at 6 (of course, this should be read as "solitude or" recreation, not "solitude and"). Nor do the GW's documents evidence particularly "close consideration" of areas greater than 5,000 acres with SP cores less than 2,500 acres, to determine whether they provide outstanding opportunities for solitude or a primitive and unconfined type of recreation, as the Guidance instructed.

Factors such as the setting of the area, its topography and vegetation, and type and use of roads are highly relevant to this assessment. It never has been demonstrated that a ½ mile pullback from roads (particularly from Forest Service roads closed to or lightly used by the public) is necessary in order to provide opportunities for solitude in the Southern or Central Appalachian mountains, with their thick deciduous forests, rugged topography, and deeply incised drainages. Instead of making this very site-specific analysis, the Working Paper seemed to take a two-dimensional view of the areas and concluded they could not provide solitude because of their shape and proximity to private land.

As a result, areas which meet the road density and naturalness criteria have been excluded from the inventory on the claimed basis that they lack sufficient opportunities for solitude. Some excluded areas are 5,000 acres or more in size and contain substantial amounts of SP acreage (e.g., Sideling Hill, Warm Springs Mtn., Back Creek Mtn. West, and Middle Mtn.). Other excluded areas are less than 5,000 acres in size but do contain 2,500 acres or more of SP land, the required amount, yet were still excluded (e.g., Green Mtn., Elliott Knob South, and Mud Run). All of the areas excluded on this basis should be reconsidered and included in the inventory.

4. Size, Shape and "Sights and Sounds"

Four areas over 5,000 acres in size (Broad Run/Dyers Knob, Sidling Hill, Middle Mountain, and Jerry's Run) were excluded from the inventory because they were viewed as being the wrong shape (long and narrow) and therefore not providing a wilderness experience. Two of these areas have sizeable chunks of SP land (Sidling Hill and Middle Mtn.).

Seven areas less than 5,000 acres in size were excluded for much the same reason (Green Mtn., Signal Knob, Dameron Mtn., Short Mtn., North Mtn., Snake Run Ridge, and Whites Peak/Run). One of these, Green Mtn., is a 4,506-acre area with an SP core greater than 2,500

acres, according to the Invty. & Eval. Working Paper. For some of these areas, outside influences also were cited, such as a boundary shared with private land or bordered by open roads, an ATV/OHV area, an Interstate or a railroad.

Again, in applying these factors, the GW injected the more subjective criteria from the wilderness evaluation stage into the roadless inventory stage.

Regarding the smaller areas, the GW seemed to impose a bar against areas less than 5,000 acres in size. The Wilderness Act defines wilderness, in part, as an area that "has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition." 16 U.S.C. § 1131(c)(3). Of the 24 wilderness and wilderness study areas in Virginia, 12 (one half) are less than 5,000 acres. GW Inventory Guidance at 17. Clearly Congress believes that areas less than 5,000 acres on Virginia's national forests can be preserved and used as wilderness.

Yet, before the GW even conducted the roadless inventory, the GW's Guidance for the inventory stated that "areas less than 5,000 acres in size need to have a very compelling rationale to be included in the inventory" and imposed criteria for areas less than 5,000 acres that are more stringent than those in the Act or the FSH. GW Inventory Guidance at 11. The functional bar against areas less than 5,000 acres in size is evidenced by the fact that not a single area less than 5,000 acres was added to the inventory, even when those areas met road density criteria and possessed a 2,500-acre SP core.

An examination of inventoried roadless areas demonstrates that the Forest Service has inventoried, and Congress has designated as wilderness, areas similar to the ones excluded. Therefore, these are not proper or adequate reasons to exclude areas at the roadless inventory stage. To provide some examples from Virginia:

- The Thunder Ridge Wilderness – narrow, 2,344-acre area primarily on a ridge, bordered by the Blue Ridge Parkway (most of it within ½ mile of the Parkway). No SP core.

- The Stone Mountain Wilderness – 3,270-acre area almost completely surrounded by private land. This area was recommended for wilderness designation by the Forest Service in the 2004 Revised Jefferson plan (as Cave Springs), was designated by Congress, and should have been in the Jefferson's roadless inventory.

- Garden Mountain Wilderness (3,291 acres) – No 2,500-acre SP core, although, like many areas the GW excluded from the roadless inventory, it does contain a substantial amount of SP acreage (2,284 SP acres). FEIS for Revised JNF Plan at C-57. Forest Service inventoried as roadless and recommended for wilderness designation in the 2004 revised Jefferson National Forest plan.

- Brush Mountain Wilderness (4,794 ac.) and Brush Mountain East Wilderness (3,743 ac.) – Both fairly long, narrow areas on the ridge and sideslopes of Brush Mountain near Blacksburg. Views into a valley with private property. Brush Mountain averages about 1

mile in width and does not have an SP core, see FEIS for Revised JNF Plan, App. C at C-39. Both areas inventoried by the Forest Service.

- James River Face Wilderness – 8,886 acres, with railroad track, state road, and Blue Ridge Parkway on various boundaries.

- Rich Hole Wilderness (I-64 visible, near boundary), Kimberling Creek Wilderness (I-77), Rough Mountain Wilderness (railroad along entire east boundary).

For further discussion of size and shape issues, see our June 2009 Comments at 13-14.

Much of this focus on solitude, size, shape and adjacent private land is interwoven with the GW's consideration of human "sights and sounds" from outside areas. As discussed at length in our prior comments, Congress does not consider "sounds and sounds" from outside wilderness areas and does not intend the Forest Service to consider them when inventorying and evaluating potential wilderness areas to recommend to Congress. See our Aug. 2008 comments, pp.15-16; our June 2009 comments, pp.10-13; and Doug Scott's paper. Disqualifying areas based on outside "sights and sounds" is contrary to the clear legislative intent behind The Wilderness Act.

It also runs particularly contrary to the Eastern Wilderness Areas Act of 1975, which featured Congressional finding that "in the more populous eastern half of the United States there is an urgent need to identify, study, designate , and preserve areas for addition to the National Wilderness Preservation System" and, therefore, "that it is in the national interest that these [areas designated in that Act] <u>and similar areas</u>[33] <u>in the eastern half of the United States be promptly designated as wilderness</u> . . . in order to preserve such areas as an enduring resource of wilderness . . . for the benefit of all of the American people of present and future generations." Pub. L. No. 93-633, § 2, 88 Stat. 2096, 2096 (1975) (emphasis added).

All of the areas excluded for these reasons need to be reconsidered and included in the inventory. Some of them are discussed further below.

5. Examples of Specific Areas

<u>Sidling Hill</u> – The September 2008 VMT Review excluded the 7,155-acre Sidling Hill area from the inventory, citing excess road density. Our June 2008 comments proposed a slightly smaller 5,154-acre area that met road density. Now, the Inventory & Evaluation Working Paper puts forth a new rationale, stating that Sidling Hill, although over 5,000 acres (5,204 ac. in the working paper), "is long and extremely narrow, only 1.5 miles wide at its widest section. . . . over half its boundary is shared with private lands. . . . its long and narrow shape is the limiting factor and does not provide for a Wilderness experience." Invty. and Eval. Working Paper at 4. As the examples above illustrate, Sidling Hill shares attributes similar to Thunder

[33] Note that the areas designated in the Eastern Wilderness Areas Act included areas such as the Gee Creek Wilderness in the Cherokee National Forest, an oblong-shaped, 2,570-acre area, and the James River Face Wilderness in the Jefferson National Forest, an 8,800-acre area located across the James River from a railroad and a state road and bounded on one side by the Blue Ridge Parkway.

Ridge and Brush Mountain and should not be excluded, particularly at this inventory stage, solely on the basis of its shape.

Warm Springs Mountain – 6,194 ac., with 2,220 ac. SP core. Invty. & Eval. Working Paper at 4. Initially, a larger, 7,832-acre area was excluded by VMT Review due to road density and claimed lack of opportunities for solitude. Now the GW has examined a smaller area, but is excluding it from the inventory, not because of existing conditions, but because "private development is encroaching along the southwest border of this area adjacent to the area of core solitude and additional future development is (expected) for this area by Bath County. As this development increases, the opportunities for solitude in this area will be further diminished." Invty. & Eval. Working Paper at 5.

It is not appropriate to exclude an area based on possible, hypothetical future development, since the focus, particularly at the first, inventory step, is on the existing condition of the area. See FSH 1909.12, Ch.71.1 and Ch.71.12 (present tense in inventory criteria, e.g., "Include areas that meet" criteria); Regional Forester's 1995 Guidance ("Any areas that meet the roadless area criteria will be added to the inventory."; again, present tense); Letter from Robert C. Joslin, Regional Forester, to James E. Loesel, SAFC, at 5 (Aug. 9, 1995) ("The roadless area inventory is one that evaluates the existing conditions, not what conditions are being strived for in the future.").

West Back Creek Mtn. – 5,906 acres, with 2,265-acre SP core. The GW objected to the configuration of this area, because it is pinched in the middle by an intruding "finger" of undeveloped private land. First, it is not clear how this undeveloped private land reduces opportunities for solitude throughout the area, which are substantial in this over-5,000-acre area. Second, the area could be considered as two separate areas separated by the trail in the vicinity of the private land finger (see VMT at 67).

Dyers Knob/Broad Run – 5,057 acres. As stated in our June 2009 comments, Broad Run is a 5,000-acre area with only 0.109 miles of road in it. VMT Review at 7. Broad Run is located along the crest and western slope of Shenandoah Mountain, adjoining Reddish Knob and separated from the Little River Roadless Area only by FSR 85. There is one trail in the area, the Little Stony Trail, which is used by hikers, equestrians and mountain bikers. The area is steep and rugged, deeply incised by numerous small streams, and very sheltered from sights and sounds (see previously submitted topo map showing the ruggedness of most of the area, opportunities for solitude, and proximity to Reddish Knob). The area is very remote with designated roadless areas to the east and national forest land to the west, although it is surrounded by Forest Service roads. This 5,000-acre area should not be excluded simply because it lacks a 2,500-acre SP core.

The Working Paper states only that the area is long and narrow (width between boundary roads less than 1 mile and only 2 miles wide at widest point), is located along the side of Shenandoah Mountain, and has no SP acreage. This does not demonstrate that the area's site-specific, on the ground attributes were considered, and the Working Paper's claim that this area does not provide opportunities for solitude or primitive and unconfined recreation runs contrary to that site-specific information. Also, note that Broad Run has attributes similar to Garden

Mountain, Brush Mountain East, Brush Mountain and Thunder Ridge Wilderness Areas (see discussion above).

Short Mountain – 4,647 ac., Warm Springs RD. The Working Paper stated:

> "Short Mountain is a x,xxx acre area which is narrow and bounded on the long, northern border by a railroad. It has limited opportunities for solitude and unconfined recreation with a core of only xxx acres of semi-primitive recreation experience."

Invty. & Eval. Working Paper at 6.

First, it is concerning that the paper lists only blanks ("xxx") for the area's total and SP acreage, suggesting the decision to exclude it was made without considering the area's essential attributes. Second, the railroad on Short Mountain's boundary is the same railroad that borders the designated Rough Mountain Wilderness, just on the other side of the railroad, so clearly this railroad should not disqualify Short Mountain, particularly at the roadless area inventory stage. Short Mountain also is similar to the Rich Hole Addition, which the GW inventoried and is proposing for recommendation for wilderness designation.

Mud Run Mountain – 4,295 acres, with 2,929 SP acres. The GW acknowledged that Mud Run meets the road density, naturalness, federal ownership, and SP core requirements. Mud Run was excluded from the inventory solely because "managing the area as Wilderness would be nearly impossible" citing limited access and inability to prevent illegal use. Invty. & Eval. Working Paper at 5. This type of manageability issue should not be used to exclude areas from the inventory and should, instead, be considered during the evaluation step. See FSH 1909.12, Ch.72.1(5) (discussing manageability as evaluation factor).

E. Evaluations of Roadless Areas (PWAs) for Wilderness Recommendation

The draft Inventory and Evaluation Working Paper evaluated 37 areas containing 378,229 acres. The GW has the most roadless acreage of any national forest east of the Mississippi River. Many of these roadless areas form the most intact, highest quality natural areas in the entire Central Appalachians, therefore, they are ecologically important in the context of the entire region. See map of George Washington National Forest Portion of Integrity Analysis of Central Appalachians Integrated Landscape, by The Nature Conservancy (4/19/2010) (attached). Many of these areas supply drinking water to local residents, support cold, clear brook trout streams, and contain Special Biological Areas, among many other important natural values. The majority of these most intact lands, however, are not permanently protected by wilderness designation. See Gregory H. Aplet (TWS), et al., Wilderness Attributes and the State of the National Wilderness Preservation System, pp.104-106, and Plate 14 (attached), in H. Ken Cordell (USFS), et al., The Multiple Values of Wilderness (2005).

In addition to their ecological values, these areas provide excellent opportunities for backcountry type recreation in close proximity to major population centers. About 9.2 million

people live within just a 1.5-2 hour drive of the GW,[34] plus many more in Richmond and Tidewater, about a half-day's drive from the GW. See our August 2008 comments, pp. 17-18, for further discussion of need and demand for backcountry recreation and wilderness. As noted in the Working Paper, additional wilderness designations are important to the majority of residents around the forest, the permanence of wilderness designation is "very important" to the public, and surveys of visitors document their increasing sense that existing wildernesses are crowded.[35]

As the Working Paper also notes, the GW is projected to experience the most area of increase in housing density on adjacent private lands of all national forests nationwide. National Forests on the Edge: Development Pressures on America's National Forests and Grasslands, USDA-FS, PNW-GTR-728, at 9 (Aug. 2007). Even within the national forest land, "demands for various uses of public lands are constantly increasing. . . . As this occurs, the lands meeting the criteria for PWAs may decrease." Invty. & Eval. Working Paper at 25.

The Forest Service has the opportunity to recommend wilderness designations to Congress only once every 10-15 years, and frequently longer. The current GW plan is already 17 years old. Yet, against this backdrop of documented need and demand for additional wilderness designations, the recreational and ecological importance of the GW's intact lands, the sense that the wilderness resource on the GW must be secured now or be lost, and an enormous pool of 37 excellent areas covering 378,229 acres to choose from, the GW is proposing to recommend only four or five areas[36] for wilderness designation, totaling a mere 20,000 acres, and consisting mostly of wilderness additions, with only one new stand-alone area (Little River).

While we enthusiastically support these recommendations, they alone are not sufficient. This stingy recommendation is at odds with the information at hand, much of it developed by the Forest Service itself, and with Congressional direction encouraging wilderness designations in the East and in proximity to population centers. Yet the GW's draft evaluation tables and working paper do not provide a rationale or basis for the proposal not to recommend 32 of the 37 areas. This is the first time we have seen narrative discussion in the draft evaluations (as opposed to the abbreviated, checklist type tables), which is a positive step. However, from those documents, we still cannot discern the rationale for proposing to recommend a few areas and not recommending many others.[37] Areas not proposed for recommendation frequently contain the same characteristics (both positive and negative) as areas proposed for recommendation, and there is no explanation for the different choices. This makes it very difficult for the public to

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[34] USFS, 2000-2004 NSRE (June 2006).

[35] We question the conclusion, based on 2000 and 2008 GW/JNF NVUM results, that wilderness use on the GW/Jefferson is decreasing. If the GW is relying on this in making its wilderness recommendations, the GW needs to make the underlying information available to the public and explain why this conclusion runs contrary to the significant increases in backcountry and wilderness recreation predicted in other Forest Service studies, e.g., in the FEIS for the Revised JNF Plan.

[36] It is not clear whether the GW intends to recommend the Rough Mountain Addition; the area is not listed in the Summary of the Need for Change but is listed in the draft management prescription 1.B, recommended wilderness study area.

[37] Some additional explanations are given or alluded to in the 2010 Summary of the Need for Change and the January 2009 Summary of How Issues Are Addressed, but this information is not found in the evaluations themselves, is not provided for all areas evaluated, and overall does not constitute a complete or adequate rationale.

comment on or respond to the evaluations. The GW should better explain the rationale behind its recommendations. The failure to do so would render the recommendations arbitrary and capricious. See Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43 (U.S. 1983) (agency must examine the relevant data and articulate a satisfactory explanation for its action, including a rational connection between the facts found and the choice made).

What is apparent is the great reluctance to recommend wilderness designations. Any potentially negative factor is highlighted, while positive factors often are ignored or diminished, creating an almost impossibly high bar for recommendations.

The information and analysis contained in the tables and the working paper also do not yet meet the minimum requirements for documenting the wilderness evaluations, as set forth in the NFMA regulation and the FSH. The 1982 NFMA regulations describe the evaluation step as follows:

> (2) For each area subject to evaluation under paragraph (a)(1) of this section, the determination of the significant resource issues, which in turn affect the detail and scope of evaluation required by the Forest Service, shall be developed with public participation. As a minimum, the evaluation shall include consideration of:
>
> (i) The values of the area as wilderness;
>
> (ii) The values foregone and effects on management of adjacent lands as a consequence of wilderness designation;
>
> (iii) Feasibility of management as wilderness, in respect to size, nonconforming use, land ownership patterns, and existing contractual agreements or statutory rights;
>
> (iv) Proximity to other designated wilderness and relative contribution to the National Wilderness Preservation System; and
>
> (v) The anticipated long-term changes in plant and animal species diversity, including the diversity of natural plant and animal communities of the forest planning area and the effects of such changes on the values for which wilderness areas were created.

36 C.F.R § 219.17(a)(2).

The FSH contains additional direction for the evaluations, instructing the Forest Service to evaluate capability, availability and need for wilderness in developing the recommendations. See FSH 1909.12, Ch.72.4 ("Document the results of evaluating potential wilderness areas against characteristics of capability, availability and need. The minimum requirements for this documentation are outlined in section 74."); Ch. 74 ("Wilderness Evaluation Documentation. This documentation describes the potential wilderness areas and the analysis factors used in evaluating them. . . . The content listed here is the minimum required; supplement as appropriate."). The Working Paper does not contain that minimum content.

Moreover, as discussed in our June 2009 comments, the factors set forth in the capability and availability tables and in the Working Paper include ones that are more stringent than those set forth in The Wilderness Act, the NFMA regulations, and the FSH and/or evidence

misinterpretations of those laws, regulations and policies. We are very glad to see that a number of the worst criteria have been removed from the revised tables, but other problematic criteria still remain.

1. Capability

The Working Paper's narrative gives only "the characteristics that most contributed to each PWA's meeting, or to not meeting, the capability for Wilderness. . .." Invty. & Eval. at 13. It is telling, therefore, that the capability discussions focus primarily on solitude and "sights and sounds" factors, such as the size of the SP core, the shape and configuration of the area (with long and narrow areas, areas with shapes or configurations the FS viewed as odd, or irregular boundary lines all viewed negatively), extent of boundary on private land, and views of private land. As discussed above, these are not determinative factors, based on the clear legislative history illustrating Congress' intent for The Wilderness Act and its definition of wilderness.

Moreover, these areas' many wilderness values, other than providing opportunities for solitude for people within the wilderness area, are ignored or glossed over. The multiple wilderness values set forth in The Wilderness Act and subsequent wilderness legislation include, in addition to the solitude that the FS so focuses on: the overarching purposes of protecting and preserving the wilderness character of these areas, in order to secure for the American people an enduring resource of wilderness; recreation; ecological, geological, or other features of scientific, educational, scenic, or historical value; conservation; physical and mental challenge; inspiration; and watershed preservation and wildlife habitat protection. See The Wilderness Act, 16 U.S.C. § 1131(a), (c)(2), (4), and § 1133(b); Endangered American Wilderness Act of 1978, Pub. L. 95-237, sec. 1(b); Eastern Wilderness Areas Act of 1975, Pub. L. 93-622, sec. 2(b).

Regarding recreation, the working paper generally does not discuss the recreation opportunities provided by these areas, such as those listed for consideration in the FSH – hiking, camping, backpacking, riding, fishing, hunting, boating (e.g., kayaking), cross-country skiing, and enjoying nature. FSH 1909.12, 72.1(3). The occasional mention of recreation usually is presented in a negative light – penalizing areas because they contain popular trails or existing mountain bike use, without pointing out the positive aspects of the recreation opportunities offered by these areas (e.g., Big Schloss, Crawford Knob/Mtn., Duncan Knob, Elliott Knob, High Knob, and Three Sisters).

Regarding special uses and values other than recreation, the FSH instructs the Forest Service to determine each area's ability to provide these other values and to identify and describe their contribution to wilderness character. FSH 1909.12, Ch.72.1(4). In addition to the above-listed values set forth in wilderness legislation, the FSH provides the examples of "unique fish and wildlife species, unique plants or plant communities, connectivity, potential or existing research natural areas, outstanding landscape features, and significant cultural resource sites." Id. Again, these generally are not discussed in the evaluations, although some are noted in the tables (e.g., Big Schloss' geologic features; Elliott Knob's position as highest point in the GWNF; landscape connectivity, particularly for areas on Shenandoah Mountain, the largest and least fragmented block of land in the Central Appalachians; presence of documented old growth in Beech Lick Knob). The NFMA regulation requires the consideration of anticipated changes in

plant and animal species diversity, 36 C.F.R. § 219.18(a)(2)(v), but the evaluations only briefly mention species issues and, again, focus on the negative factors (citing species which benefit or might benefit from active management) without recognizing there also are potential benefits to those and/or other species (e.g., wood turtle in Big Schloss, where evaluation claims wood turtle management might be needed, but turtle also probably would benefit from protection from motorized uses).

The GW should consider all of these recreation and other special values in the evaluations. The failure to consider or to fully consider these obviously relevant factors would violate the Forest Service's own regulation and Handbook and render the decision not to recommend these areas arbitrary and capricious, as would continued reliance on improper factors based on misinterpretations of The Wilderness Act, such as sights and sounds, and the overreliance on the solitude core. See Motor Vehicle Mfrs. Ass'n, 463 U.S. at 43 (agency decision will be arbitrary and capricious if agency did not examine relevant data and factors or relied on improper factors).

2. Availability

The NFMA regulations direct the Forest Service to consider the values of the area as wilderness and the values forgone by wilderness designation. 36 C.F.R. § 219.17(a)(2). For the availability analysis, as a starting point, the FSH states that "All National Forest System (NFS) lands determined to meet the wilderness capability requirements are considered potentially available for wilderness designation." FSH 1909.12, Ch.72.2. The FSH elaborates, "However, the determination of availability is conditioned by the value of and need for the wilderness resource compared to the value and need for other resources." FSH 1909.12, Ch.72.2.

The GW's availability analysis was skewed by the above-described failure to fully identify and document all the positive wilderness values and need for wilderness. Therefore, it was impossible for the availability analysis adequately to compare those values to the ones that would be forgone, as the Ch.72.2 requires. While the benefits were not well documented, all non-wilderness uses were thoroughly documented. This created a situation where it was almost impossible for any area ever to meet the availability test, that is, ever to garner enough wilderness "pros" to outweigh every "con," present and future, major and minor, relevant and irrelevant, that were marshaled. The GW set an almost impossibly high bar for wilderness recommendation.

Moreover, where VWC proposed modified, feasible boundaries supported by potentially conflicting user groups, the GW evaluations usually did not say so. Instead, they continued to treat the other use as one that would be foregone, even though it is not an either/or decision. While some joint proposals were recognized (e.g., Little River), it is unfortunate and frustrating to the conservation community that much of the good, hard effort put into resolving potential conflicts has not yet been considered in the evaluations and decisions on the recommendations.

Except for the wilderness additions, the only stand-alone area that apparently met the test, Little River (30,227 ac.), is an absolutely outstanding, unique area. This enormous area is the largest roadless area in the Southern Appalachians and possibly in the entire Eastern U.S. Even

compared to designated wilderness in the Southern region, Little River is second in size only to the Cohutta/Big Frog Wilderness in TN & GA. It also has all the attributes most desired by the FS (it has an incredibly large 20,500-acre SP core, almost no boundary on private land, and has the square shape and regular boundaries that the FS analysis favors). It is unreasonable, and not within the clear intent of Congress or even the Forest Service's own regulations and Handbook, to raise the bar for the availability test to this level.

Other Uses

Regarding the other uses that would be forgone if the area were designated wilderness, the working paper lists them without evaluating their relative importance or context. For example, wildlife openings are noted, but there are a very great many wildlife openings on the forest, and it is our understanding that the Forest Service and Virginia Department of Game and Inland Fisheries lack the budget to maintain them all. So, at least in many areas, the presence of wildlife openings does not seem to be of great importance.

In another example, as discussed above, the GW is proposing to keep most of the newly identified roadless areas in the suitable timber base. Summary of Need for Change at 7. This proposal clearly has shaped the evaluations of these areas, which emphasize their suitable acreage and any past logging. Our analysis showed, however, that most of them (76%) are not readily accessible for logging, so any loss of currently suitable, accessible timberland would be relatively minimal, and the evaluations should recognize that.

3. Forest Service Should Consider Areas or Boundaries that Would Address Apparent Concerns About a Wilderness Recommendation.

The evaluations should consider how boundaries affect an area's manageability as wilderness, FSH 1909.12, Ch.72.1(5), and whether boundary changes would improve manageability, enhance wilderness characteristics or separate incompatible activities, Ch.72.5, and Ch.74(2)(f). VWC and others have proposed several areas with boundaries adjusted to avoid conflicts. In many cases, those proposals would obviate concerns pointed out in the evaluations. The GW should evaluate these areas. Many of them are included in the Remote Alternative, and hopefully will be included in other alternatives, so it is important to evaluate them for wilderness recommendation, to ensure they are seriously considered.

Skidmore Fork (in the new High Knob area), Three High Heads (in Big Schloss), and Whites Peak have not yet been evaluated as separate areas. Other areas have not been considered with the particular boundaries proposed by VWC and Friends of Shenandoah Mountain. The GW should consider and evaluate these areas.

We hope that the Forest Service's early capability criterion of whether areas exceed 7,300 acres, the average size of designated wilderness on the GW (see Draft Working Paper of 8/27/2008, displaying capability and availability factors), has not caused the GW to be reluctant to consider these smaller areas. These smaller wilderness areas can ensure protection for the most remote, intact, core refuge areas within larger landscapes, many of them within larger (hopefully protected) roadless or scenic areas.

Skidmore Fork, VWC proposal 5,228 ac. – The Skidmore Fork area lies within the new High Knob area, which was created by combining and expanding the Skidmore Fork IRA in VA and the Dry River IRA in WV. The January summary indicates that the IDT viewed High Knob as among the best areas to consider for Wilderness recommendation, but noted that the West Virginia DNR has reservations about Wilderness designation. The Skidmore Fork portion, however, is in Virginia and should be considered separately.

The only negative factors mentioned in the evaluation are: "cherry stem" around the Skidmore Fork Road (does not seem to be a major impediment to wilderness); irregular boundary in the north-west portion (in WV, outside Skidmore Fork); past wildlife management, prescribed burning, and suitable acreage (appears to be outside Skidmore IRA, see GWNF, Map of 1993 Plan Mgmt. Areas, North River RD (2/2010); and the Shenandoah Mtn. Trail, used by mountain bikers, through the middle of High Knob (would be outside Skidmore and would serve as its boundary).

Three High Heads, VWC proposal 5,224 ac. – Three High Heads is a remote area within the interior of the Big Schloss roadless area. The evaluations noted the "outstanding opportunities in the interior [of Big Schloss] for primitive recreation and physical challenge." Invty. & Eval. Working Paper at 15. Three High Heads seems to contain a significant portion of the SPNM acreage within Big Schloss (see GWNF, Map of ROS-2008 Inventory, 2/26/2010), so wilderness designation is well suited to and would protect a good portion of the most remote, core lands within Big Schloss.

Again, most of the negative factors noted in the wilderness evaluation of Big Schloss do not apply to the Three High Heads portion: dense, popular trail system (only 1.1 mi. of the Sulphur Springs Gap Trail included in Three High Heads); odd overall configuration and private land boundary (not for Three High Heads); suitable acreage, "investments" in wildlife openings and prescribed fire (appear outside Three High Heads, which is in the Big Schloss IRA and the 1993 plan Special Mgmt. Area, was unsuitable, and has no wildlife openings, prescribed fire, or timber harvest within past 15 yrs, per GWNF, Map of 1993 Forest Plan Mgmt. Areas, Lee RD (2/2010)); privately owned mineral rights (not in Three High Heads); Little Stony Creek is limed (outside Three High Heads).

Beech Lick Knob, VWC proposal 11,111 ac. – The evaluation notes that the Great Eastern Trail is being constructed in the western portion of the area. VWC and others have proposed, however, to use the GET as the boundary of the wilderness area. The GW should consider the area with this adjusted boundary. The evaluations also note that most of the boundary is on private land, but the VWC-proposed boundary adjustments minimize the private land boundary.

The Forest Service's major concern with this area seems to be the presence of some land suitable for timber production, which we discussed above. In the case of Beech Lick Knob, the relatively small amount of suitable, accessible acreage in Beech Lick Knob should not prevent recommendation for wilderness designation of one of the best wilderness candidates on the GW.

Three Sisters, VWC proposal 6,327 ac. – The negative factors noted in the evaluation do not apply to the VWC proposed area: use and maintenance of Appalachian Trail (AT would serve as the boundary for the wilderness, outside the area); private mineral rights (not within the VWC-proposed area); 1.3 miles of open road (VWC proposal would close no roads); suitable timber acreage and past wildlife management (area in remote backcountry MA 9, unsuitable for timber production, under 1993 plan and no wildlife openings shown on GWNF Map of 1993 Forest Plan Mgmt. Areas, Pedlar RD, 2/2010); acidified streams may benefit from future liming (it is possible to lime streams in wilderness, e.g., St. Marys).

F. Wilderness, NSA and NRA Recommendations

The Forest Service should develop and consider an alternative that includes at least the following designations and should make at least the following recommendations:

- National Scenic Area for Shenandoah Mountain, as described in the October 2008 letter to the GW Planning Team from Friends of Shenandoah Mountain. The Scenic Area should contain recommended Wilderness areas for Skidmore Fork, Little River, Bald Ridge (east side of Ramseys Draft addition) and Lynn Hollow (west side of Ramseys Draft addition).

- Wilderness designation for Beech Lick Knob, Laurel Fork, Three Sisters and Whites Peak.

- Additions to existing Wilderness areas: Rich Hole, Rough Mtn., Saint Marys West and South Additions and Three Ridges Additions.

- National Scenic Area for Big Schloss, containing a recommended Wilderness for Three High Heads.

- National Scenic Areas for Adams Peak and Kelley Mtn.

- National Recreation Area for North Massanutten Mountain, including the North Massanutten Mtn., Signal Knob and Duncan Knob (aka Catback Mtn. or Waterfall) areas.

- Wilderness designation for Benson Run and Bolshers Run (these areas lie within or partly within the Jerkemtight PWA), Elliott Knob, Archer Knob, Paddy Lick, Little Allegheny, Oliver Mtn. and Potts Mtn./Toms Knob.

Most of these areas were described and mapped in the Virginia Wilderness Committee's January 2009 letter to the GW Planning Team. We want to bring forward into this new phase of the plan revision all the areas that VWC proposed in January 2009, so that they can be fully considered in this proper planning process and in the EIS. VWC remains committed to discussing and refining these proposals collaboratively with other users.

We request that the Forest Service consider and evaluate these areas based on the boundaries and designations proposed by VWC and by Friends of Shenandoah Mountain. The

Rockbridge County Board of Supervisors supports Wilderness designations for Whites Peak and Three Sisters and a National Scenic Area designation for Adams Peak,[38] and we request that the Forest Service consider those boundaries supported by the Board.

X. Conclusion

Thank you for your consideration. Please contact us if you have any questions.

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[38] See Rockbridge County Board of Supervisors, Resolution in Support of Forest Protection in Rockbridge County, available at http://www.co.rockbridge.va.us/Supervisors/minutes/m20090727cont.pdf, at 3-4 (Jul. 27, 2009).

List of Attachments

1. Maps of Marcellus Shale Underlying George Washington National Forest, by SELC (4/30/2010) (hard copy only):
    a. Marcellus Shale Underlying Virginia's National Forests.
    b. Marcellus Shale Underlying George Washington National Forest.
    c. Marcellus Shale, Drinking Water Supplies, and Trout Streams, George Washington National Forest.
    d. Marcellus Shale and Karst Underlying Virginia's National Forests.

2. The Wilderness Society, Hydraulic Fracturing – An Unregulated Danger to Our Nation's Drinking Water.

3. *Fact Sheet, Hydraulic Fracturing and the FRAC Act: Frequently Asked Questions.

4. *The Wilderness Society, The Economic and Social Impacts of Oil and Gas Development (June 2006).

5. *Doug Scott, Campaign for American Wilderness, Solitude, 'Sights & Sounds' and The Wilderness Act: What Can Qualify for Designation as Wilderness? (April 2003) (previously submitted and on enclosed CD-ROM).

6. Letter from Robert C. Joslin, Regional Forester, to Rene Voss, Sierra Club-Georgia Chapter, (Jan. 12, 1996).

7. Map of George Washington National Forest Portion of Integrity Analysis of Central Appalachians Integrated Landscape, by The Nature Conservancy (4/19/2010).

8. *Gregory H. Aplet (TWS), et al., Wilderness Attributes and the State of the National Wilderness Preservation System, in H. Ken Cordell (USFS), et al., The Multiple Values of Wilderness (2005) (chapter previously submitted and on enclosed CD-ROM; hard copy of Plate 14 attached for ease of reference).

* Items marked with asterisks are included on CD-ROM only.

Susan Musante
<susanmusante@yahoo.com>

05/09/2010 11:01 AM

To comments-southern-georgewashington-jefferson@fs.fed.us
cc
bcc
Subject Comment on George Washington Plan Revision

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703-582-9410

May 9, 2010

Supervisor
Maureen Hyzer
George
Washington Plan
Revision
George
Washington &
Jefferson
National Forests
5162
Valleypointe
Parkway
Roanoke, VA
24019-3050

Dear Supervisor
Hyzer:

Thank you for the
opportunity to
provide input in
the planning
process for the
George
Washington
National Forest.
I attended the
previous round of
public input

meetings in 2008 and the one in late April 2010 in Woodstock to get an update on the revision of the forest plan. I attend these meetings because I am a George Washington National Forest user and care very much about being able to continue riding my mountain bike in the national forest.

I have been traveling to the George Washington National Forest for recreation since 1996. I am a hiker, runner, and mountain biker. Because bicycles are mechanized I would no longer be allowed to ride my bicycle on the trails in areas that are designated Wilderness. I fail to understand why bicycles are not allow in Wilderness areas

- there is no motor, no pollution, and no more impact than the feet of mammals, hoofed or booted, make on the trails, however I understand that it is not your role to change the definition of Wilderness. Your role is to make a recommendation about the use and designation of the land. I therefore implore you to not recommend that any areas of the Lee Ranger District in the George Washington National Forest become new Wilderness areas. In other areas, I ask that if you recommend Wilderness to please ensure that other trails are built that equate to the same mileage.

I frequently ride with friends and family on the trails of the Lee

Ranger District, this is primarily because they are the closest to my home. My husband and I moved to Warren County in 2003 specifically to be closer to the wonderful outdoor places. The trails in the GW along Massanutten West and East ridges and in the Duncan Knob area are idyllic for mountain biking offering amazing views and unique technical challenges – a true escape into the woods. The trails in the Big Schloss area have a slightly different feel, and offer the wide open views off of rocks and feeling of being truly away from it all.

Please do not take away the opportunity to ride these trails on mountain bikes, for me, for

others who travel to the George Washington National Forest, and for others who will take up mountain biking and come to your forest to explore all that it offers. In fact, additional new trails would be welcomed especially by those who cannot ride on the extreme trails in some of the Lee.

In one of the planning meetings we looked at potential new trails and there are many opportunities to disperse use and create loops of increasing difficulty. I think that if more people were able to get out into the national forest, more would understand the need to protect these amazing natural resources. A designation of Wilderness is

necessary to protect the land from unsustainable practices.

Jim Smalls participated in our small group discussion during the April meeting and he said that policies and land use designations could be put into place that would protect from things such as "frack" drilling without restricting the use of the land on the surface. I'm solidly in favor of keeping the drinking water supply safe, but know that this can be done through sustainable trail design. There are many trails in the GW Lee District which would benefit from being retreaded or rerouted to make them more sustainable. As for the other issues which raise concern, I

think there are certainly other ways to ensure the land is protected while still allowing “green” activities such as mountain biking. Again, I implore you to not recommend any areas with trails in the George Washington National Forest as Wilderness. Please consider other designations for land protection.

I appreciate all of your efforts and thank you again for the opportunity to share the impact your decisions would have on me.

Sincerely,

Susan Musante

"Epperson Joe"
<EPPERSJ@ntsb.gov>
05/10/2010 09:12 AM

To <comments-southern-georgewashington-jefferson@fs.fed.us>
cc
bcc
Subject Comment on George Washington Plan Revision

Thank you for the opportunity to comment on the George Washington and Jefferson National Forests regarding the management of off-highway vehicles (OHV). I urge the U.S. Forest Service (USFS) to ensure that responsible motorized access is not restricted. Further, the new plan should allow for expansion of motorized recreation into additional appropriate areas and to allow for single track trails open only to motorcycles.

As an OHV enthusiast, I am very concerned about the potential impact this rulemaking may have on responsible motorized recreation opportunities on land managed by the USFS.

One concern is a potential Wilderness designation. A Wilderness designation will close off motorized access to all forest service roads and roadless areas. This may affect the Shenandoah 500, which is two-day national dual sport held mostly in the George Washington and Jefferson National Forests.

Motorized recreation plays a role in addressing many of the issues raised by our current economic and social condition. It provides sustainable employment, economic growth, and has a positive effect on other administration-stated goals, such as addressing childhood obesity.

It is incumbent on the agency to fulfill its multiple use mandate as outlined in the Multiple-Use Sustainable Yield Act of 1960. The forest planning process should not be used to promote the management of additional public land for non-use. Rather, it should promote good management for sustainable multiple uses. Specifically, planners should seek to preserve and restore recreational access to our forests in the planning process.

The planning process should plan for the inclusion of responsible motorized recreation opportunities where appropriate and the use of established techniques for trail design, construction and maintenance.

Thank you for your time and consideration of my request.

Joe Epperson
Northern Virginia Trail Riders

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From:	Karen B Overcash/R8/USDAFS
Recipients:	comments-southern-georgewashington-jefferson@FSNOTES
Subject:	Fw: [WebEmail] hydrofracting
Date:	11:25:05 AM Today

Karen Overcash
USDA Forest Service
Land Management Planning
George Washington & Jefferson NFs
5162 Valleypointe Parkway
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540-265-5175 Fax 540-265-5145
kovercash@fs.fed.us
GO VA TECH!

----- Forwarded by Karen B Overcash/R8/USDAFS on 05/10/2010 11:24 AM -----

foresmiths@comcast.net
05/04/2010 06:40 PM

To Mailroom_R8_George_Washington_Jefferson@fs.fed.us
cc
Subject [WebEmail] hydrofracting

Begin Transmission
USDA Forest Service - National Web Site Email Response Form.
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Posted on Tuesday, May 4, 2010 at 18:40 Hours (Server time).

From: mike smith
Email: foresmiths@comcast.net

Telephone Number: 540-298-1913

Street Address:
55 mimosa lane
elkton,va 22827

Message Subject: hydrofracting

Message Contents:

Dear sir,

I feel that hydrofracting would be a big threat to the water supply for those people living in the area being testing. I understand that many different chemicals including benzene (a known carcinogen) would be injected deep underground to break up the shale to extract natural gas.
Water is a precious resource, and people drinking the water could be exposed to harmful substances if hydrofracting is allowed. Also, the area is in a floodplain. That means there could be a runoff of potentially harmful chemicals into the waterways. People and animals downstream would also be affected by this dangerous practice of hydrofracting. Other states are also having problems with hyhrofacting. Please study how other states are dealing with this new technology, before making your recommendation.
One last thing, do our wastetreatment facilities or fire departments have the capability to deal with a potential spill from the hydrofracting activities?

thanks,
Mike Smith

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The following information may only be used to monitor for SPAM and/or abuse posts
using this automated response system. It may not be used for any other purpose.
IP Address: 216.246.75.93
Browser-O/S: Mozilla/4.0 (compatible; MSIE 8.0; Windows NT 6.0; Trident/4.0; SLCC1; .NET CLR 2.0.50727; Media Center PC 5.0; .NET CLR 3.5.30729; MS-RTC EA 2; .NET CLR 3.0.30729)
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End Transmission